Author: Tshingombe Tshitadi

Curriculum assessment

🧾 Research Framework

Author: Tshingombe Tshitadi

Title: Application Trade Education Guide in Education Actuary and Method Research Library: Joining Information Technology, Project Deployment, Database Planning, and Didactic Materials

1️⃣ Abstract

This research explores the integration of trade education principles with educational actuarial analysis, instructional design, and information technology deployment. It proposes a modular guide for vocational educators, curriculum developers, and policy strategists to align trade-based learning with digital infrastructure, database planning, and didactic resource development. The framework supports credentialing, audit readiness, and public service alignment across regulated qualifications.

2️⃣ Scope

- **Domains**: Vocational education, educational actuarial modeling, IT deployment, instructional design
- **Stakeholders**: Educators, curriculum architects, trade test assessors, IT planners, policy makers
- **Applications**: Trade test preparation, SAQA/NQF alignment, digital learning systems, database-driven credential tracking

3️⃣ Keywords

Trade education, educational actuary, research library, IT integration, database planning, didactic materials, vocational curriculum, deployment strategy, credentialing, SAQA, SQA

4️⃣ Research Statement

To develop a unified guide that links trade education with actuarial modeling, instructional resource planning, and IT deployment for scalable, credential-linked vocational learning systems.

5️⃣ Methodology

- **Sources**: SAQA unit standards, SQA assessment guides, IT deployment frameworks, actuarial education models

- **Tools**: Modular curriculum mapping, database schema design, didactic material indexing
- **Validation**: Trade test alignment, audit traceability, learner performance metrics

6. Data Analysis

- **Techniques**: Curriculum-unit mapping, actuarial risk modeling, database normalization, instructional resource tagging
- **Metrics**: Completion rate, assessment validity, system uptime, learner engagement

7. Advantages

- Modular and scalable
- Supports bilingual and cross-border credentialing
- Aligns with SAQA/SQA frameworks
- Enables digital audit and legacy preservation
- Integrates IT and instructional planning

8. Disadvantages

- Requires multi-disciplinary coordination
- High initial setup cost
- Dependent on IT infrastructure
- Needs ongoing moderation and version control

9. Management System Information

- **Platform**: LMS, GitLab, Archive.org, SAQA Registry
- **Modules**: Trade education, actuarial modeling, IT deployment, didactic planning
- **Files**: Curriculum guides, assessment matrices, database schemas, instructional templates

🚚 Delivery & Key Performance Policy

- **KPIs**: Credential issuance rate, system uptime, assessment reliability, learner feedback
- **Policy Alignment**: SAQA/NQF, SQA Code of Practice, DHET directives

1️⃣1️⃣ Investigation Principles

- Root cause analysis of assessment gaps
- Actuarial modeling of learner progression
- IT deployment traceability
- Didactic resource validation

1️⃣2️⃣ Communication & Administration Skills

- Technical documentation
- Curriculum coordination
- IT planning reports
- Assessment moderation logs

1️⃣3️⃣ Statistic Report: Deployment & Education Risk

- **Metrics**: System failure rate, learner dropout, assessment irregularities
- **Tools**: LMS logs, actuarial dashboards, IT deployment trackers

1️⃣4️⃣ Trade Test Requirements

- SAQA/NQF-aligned units
- Validated assessment methods
- Workplace relevance
- Digital credentialing

- Public service readiness

1️⃣5️⃣ Audit & Inventory

- Curriculum maps
- Database schemas
- Didactic material index
- Credential logs
- Moderation records

1️⃣6️⃣ Conclusion

This guide provides a modular framework for integrating trade education with actuarial modeling, IT deployment, and instructional planning. It supports credentialing, audit readiness, and scalable vocational delivery across regulated systems.

Would you like this scaffolded into a bilingual credential portfolio or formatted for submission to SAQA, SQA, or DHET? I can also help you link it to your existing modules and GitLab audit sheet

Summary: Tshingombe Tshitadi Fiston’s FBIP Concept Note (FBIC250410310077) proposes a modular, credential-linked framework integrating engineering education, rural implementation, and national qualification systems to enhance biodiversity data management and policy engagement.

Overview

The concept note submitted under the Foundational Biodiversity Information Programme (FBIP) aims to integrate engineering education, rural development, and national qualification frameworks into a data-driven system that supports biodiversity knowledge generation and dissemination.

Scope

- **Geographic**: Democratic Republic of Congo and South Africa
- **Institutional**: South African Qualifications Authority (SAQA)
- **Disciplinary**: Engineering, environmental chemistry, additive manufacturing, and curriculum policy
- **Audience**: Learners, vocational institutions, policy councils, and biodiversity platforms

Description

The project centers on:

- Modular curriculum design for electrical engineering and rural education
- Integration of national trade examination systems
- Credential transparency and open-access learning
- Engineering-based data systems for biodiversity and policy traceability

Data Analysis & Information Management System

- **Data Types**: Qualification records, timetable structures, attendance logs, assessment sheets, and policy documents
- **Tools**: Visual Basic logic, logigrammes, algorigrammes, and archival dashboards
- **System Features**:
  - Audit-ready credential tracking
  - Integration with CSIR infrastructure
  - Modular export logic for engineering and biodiversity records

Investigation Principles

- **Research Questions**:
  - How can engineering curriculum frameworks support biodiversity data systems?
  - What are the gaps in rural education and credential recognition?
  - How can policy irregularities be resolved through technical documentation?
- **Methodology**:
  - Literature review
  - Experimental curriculum mapping
  - Stakeholder engagement (learners, councils, universities)

Advantages

- Promotes **credential transparency** and **open-access learning**
- Bridges **engineering education** with **biodiversity policy**
- Enables **modular, bilingual documentation** for rural and urban contexts
- Supports **national infrastructure platforms** like CSIR

⚠ Disadvantages

- High initial cost (R10 million budget)
- Complexity in aligning multiple qualification systems
- Potential resistance from traditional academic institutions
- Requires extensive stakeholder coordination

✅ Conclusion

This concept note presents a visionary integration of engineering, education, and biodiversity data systems. It leverages Tshingombe's expertise in modular documentation and policy engagement to propose a scalable, audit-ready framework that supports national and regional biodiversity goals.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

- To support your FBIP concept note with actionable logic, here's a tailored Visual Basic (VBA) code module that integrates algorigramme and logigramme principles for credential tracking, timetable validation, and modular export logic. This framework is designed to reflect your curriculum mapping, rural implementation, and audit-ready documentation goals.
- 🧠 Conceptual Logic: Algorigramme vs Logigramme

Logic Type	Purpose
Algorigramme	Step-by-step procedural logic for data validation and export workflows
Logigramme	Decision-based flow logic for curriculum, attendance, and credential rules

- Visual Basic Code Module: Credential Tracker & Export L

```
Sub CredentialAuditExport()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim studentID As String
    Dim qualification As String
    Dim attendance As Integer
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("CurriculumData")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        studentID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 75 Then
            exportStatus = "Eligible for Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 75 Then
            exportStatus = "Insufficient Attendance"
        Else
            exportStatus = "Review Required"
        End If

        ' Algorigramme: Procedural export logic
        ws.Cells(i, 4).Value = exportStatus
        If exportStatus = "Eligible for Export" Then
            Call ExportToArchive(studentID, qualification)
        End If
    Next i

    MsgBox "Audit and export process completed.", vbInformation

End Sub

Sub ExportToArchive(studentID As String, qualification As String)
    ' Simulated export logic to archival system
    Debug.Print "Exporting: " & studentID & " - " & qualification
    ' Future integration: GitHub, GitLab, archive.org APIs
End Sub
```

Diagrammatic Mapping

- **Logigramme Nodes**:
    - Qualification check → Attendance threshold → Export eligibility
- **Algorigramme Steps**:

1. Read curriculum data
2. Validate qualification and attendance
3. Assign export status
4. Trigger archival export

Extendable Modules

- **Timetable Validator**: Add logic for day/time allocation and conflict resolution
- **Assessment Tracker**: Integrate mark sheets and retake logic
- **Policy Engine**: Map council rules and SGB/SETA compliance

Would you like me to scaffold a printable dashboard or integrate this logic with your GitHub curriculum repositories? I can also help visualize the logigramme and algorigramme as flowcharts.

Based on your concept note's modular, credential-linked framework, here is a Visual Basic for Applications (VBA) code module that operationalizes your system logic using algorigramme (procedural flow) and logigramme (decision logic) principles. This code is designed to automate credential verification, attendance validation, and export readiness for biodiversity-linked engineering education records.

Visual Basic Code: Credential Verification & Export Logic

```
Sub BiodiversityCredentialAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim studentID As String
    Dim qualification As String
    Dim attendance As Double
    Dim exportStatus As String
    Dim policyFlag As String

    Set ws = ThisWorkbook.Sheets("BiodiversityCurriculum")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        studentID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        policyFlag = ws.Cells(i, 5).Value ' e.g., "Compliant", "Pending",
"Irregular"
```

```
        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 75 And policyFlag =
"Compliant" Then
            exportStatus = "Ready for Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 75 Then
            exportStatus = "Low Attendance"
        ElseIf policyFlag <> "Compliant" Then
            exportStatus = "Policy Review Required"
        Else
            exportStatus = "Manual Review"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Ready for Export" Then
            Call ExportToArchive(studentID, qualification)
        End If
    Next i

    MsgBox "Credential audit and export logic completed.", vbInformation

End Sub

Sub ExportToArchive(studentID As String, qualification As String)
    ' Simulated export logic to archival system
    Debug.Print "Exporting record: " & studentID & " - " & qualification
    ' Future integration: GitHub, archive.org, or CSIR data platform
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read student data	Is qualification present?
2	Validate attendance and policy compliance	Is attendance ≥ 75%?
3	Assign export status	Is policy flag marked "Compliant"?
4	Export eligible records to archival system	If all conditions met → Export; else → Flag for review

Sheet Structure (BiodiversityCurriculum)

Column	Field
A	Student ID
B	Qualification

Column	Field
C	Attendance (%)
D	Assessment Score
E	Policy Compliance
F	Export Status

This VBA module can be embedded into your biodiversity curriculum workbook to automate compliance checks and credential exports. Would you like a printable logigramme/algorigramme diagram or a dashboard interface for this logic? I can also help you integrate this with your GitHub or

Here is a structured summary of your SARChI Communities of Practice (CoP) application (Reference: COP250411310245), formatted to support academic, policy, and funding alignment:

Overview

This concept proposes a transdisciplinary Communities of Practice (CoP) model that integrates electrical engineering education, labour policy, national security facilitation, and credential transparency. It leverages modular curriculum design, open-access learning, and digital portfolio mapping to address skill gaps in regulated sectors and democratize technical education.

Scope

- **Geographic Focus**: South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
    - Engineering sciences
    - Labour policy and CCMA frameworks
    - Security and safety facilitation

    - Curriculum policy and additive manufacturing

- **Target Audiences**:
    - Learners (school, vocational, and open-access)
    - Labour councils and government departments
    - Technical educators and policy facilitators

Description

The CoP initiative centers on:

- Modular curriculum design for electrical engineering and trade readiness
- Integration of CCMA labour frameworks and government bill implementation
- Credential alignment with SAQA/NQF, WA codes, and NSF SBIR/STTR standards
- Use of LMS, GitHub, and Internet Archive for career mapping and digital publishing
- Development of security and safety facilitation modules for regulated sectors

Data Analysis & Information Management System

- **Data Types**:
    - Qualification records
    - Labour levy documentation
    - Government bill implementation logs
    - Portfolio artifacts and diagnostic assessments
- **Tools & Logic**:
    - Visual Basic for Excel-based credential tracking

- Logigrammes for decision-based policy mapping
- Algorigrammes for procedural curriculum workflows
- Archival dashboards for learner progression and trade readiness

- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and labour policy records
  - Integration with SARAO and CSIR infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can engineering education support national security and labour facilitation?
  - What gaps exist in regulated sectors and trade readiness?
  - How can credential transparency be improved through digital publishing and diagnostics?
- **Methodology**:
  - Literature review and policy diagnostics
  - Experimental curriculum mapping
  - Stakeholder engagement (learners, CCMA, government departments)
  - Case studies and logic model alignment

Advantages

- Bridges engineering education with labour and security policy
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors

- Supports national infrastructure platforms like SARAO and CSIR
- Aligns with government bill implementation and CCMA frameworks

Disadvantages

- Limited institutional partner documentation in current application
- High complexity in aligning multiple policy domains
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application

Conclusion

This CoP proposal presents a visionary integration of engineering, labour policy, and credential transparency. It leverages Tshingombe Tshitadi Fiston's expertise in modular documentation and curriculum innovation to scaffold a scalable, audit-ready infrastructure for technical education and regulated sector engagement.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

- To operationalize your SARChI Communities of Practice (CoP) framework, here's a Visual Basic for Applications (VBA) module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code is tailored to support credential verification, labour policy compliance, and modular export logic for learners in regulated sectors.
- Visual Basic Code: Labour Credential Audit & Export System
- ```
  Sub LabourCredentialAudit()
  
      Dim ws As Worksheet
      Dim lastRow As Long
  ```
  ```

```
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim attendance As Double
    Dim labourLevyStatus As String
    Dim govBillCompliance As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("CoP_Curriculum")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        labourLevyStatus = ws.Cells(i, 4).Value
        govBillCompliance = ws.Cells(i, 5).Value

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 75 And _
           labourLevyStatus = "Paid" And govBillCompliance =
"Compliant" Then
            exportStatus = "Ready for Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 75 Then
            exportStatus = "Low Attendance"
        ElseIf labourLevyStatus <> "Paid" Then
            exportStatus = "Labour Levy Unpaid"
        ElseIf govBillCompliance <> "Compliant" Then
            exportStatus = "Gov Bill Non-Compliant"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Ready for Export" Then
            Call ExportToPortfolio(learnerID, qualification)
        End If
    Next i

    MsgBox "Labour credential audit completed.", vbInformation

End Sub

Sub ExportToPortfolio(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification:
" & qualification
    ' Future integration: API calls to GitHub, LMS, or archival
platforms
End Sub
```

- 🧠 Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate attendance, levy, and compliance	Is attendance ≥ 75%?
3	Assign export status	Is labour levy paid and gov bill compliant?
4	Export eligible records to digital portfolio	If all conditions met → Export; else → Flag for review

- 📊 Sheet Structure (CoP_Curriculum)

Column	Field
A	Learner ID
B	Qualification
C	Attendance (%)
D	Labour Levy Status
E	Government Bill Compliance
F	Export Status

- This VBA module can be embedded into your CoP workbook to automate compliance checks, credential verification, and export readiness. Would you like a printable logigramme/algorigramme diagram or a dashboard interface for this logic? I can also help scaffold the GitHub or LMS integration logic next.

Here is a structured summary of your NRF Awards application (Reference: NONF250411310281), formatted to support academic, policy, and funding alignment:

🧠 Overview

This nomination for the NRF Research Excellence Award for Early Career/Emerging Researchers highlights Tshingombe Tshitadi Fiston's pioneering work in electrical engineering education, credential transparency, and modular curriculum innovation. The submission integrates national and international frameworks (RNF, AIU, NSF) to

scaffold a transdisciplinary learning journey aligned with South Africa's National Trade Framework.

Scope

- **Geographic Focus**: South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
  - Electrical engineering and energy studies
  - Curriculum policy and management
  - Defence and security systems
  - Additive manufacturing and industrial sociology
- **Target Audiences**:
  - Vocational learners and educators
  - Policy councils and regulatory bodies
  - Defence and security research platforms

Description

The nomination centers on:

- Modular curriculum design for electrical engineering and trade readiness
- Credential alignment with SAQA/NQF, WA codes, and NSF SBIR/STTR standards
- Integration of AIU guest modules and LMS platforms for open-access learning
- Use of GitHub, Excel VBA, and Internet Archive for portfolio documentation
- Development of security and safety facilitation modules for regulated sectors

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records
  - Timetable allocation and job costing
  - Labour levy and government bill documentation
  - Diagnostic assessments and career portfolios
- **Tools & Logic**:
  - Visual Basic for Excel-based credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
  - Archival dashboards for learner progression and trade readiness
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and policy records
  - Integration with SARAO and CSIR infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support national trade and security frameworks?
  - What gaps exist in credential transparency and regulated sector readiness?
  - How can digital publishing and diagnostics improve learner outcomes?
- **Methodology**:

- Literature review and policy diagnostics
- Experimental curriculum mapping
- Stakeholder engagement (learners, councils, government departments)
- Case studies and logic model alignment

Advantages

- Bridges engineering education with national policy and defence systems
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors
- Supports national infrastructure platforms like SARAO and CSIR
- Aligns with government bill implementation and labour policy frameworks

Disadvantages

- High complexity in aligning multiple policy domains
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application
- Limited institutional partner documentation in current submission

Conclusion

This NRF nomination showcases Tshingombe Tshitadi Fiston's visionary integration of engineering education, policy engagement, and credential transparency. His work scaffolds a scalable, audit-ready infrastructure for technical education and regulated sector development, positioning him as a leading early-career researcher in Africa's engineering and policy landscape.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.

- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.

- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

- To support your NRF Awards application and modular curriculum logic, here's a Visual Basic for Applications (VBA) code module that integrates both **algorigramme** (procedural flow) and **logigramme** (decision logic) principles. This code is designed to automate credential verification, labour policy compliance, and export readiness for learners in regulated sectors such as defence, security, and electrical engineering.
- ### Visual Basic Code: NRF Credential Audit & Export Logic

```
Sub NRF_CredentialAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim attendance As Double
    Dim levyStatus As String
    Dim govCompliance As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("NRF_Curriculum")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        levyStatus = ws.Cells(i, 4).Value
        govCompliance = ws.Cells(i, 5).Value

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 75 And _
           levyStatus = "Paid" And govCompliance = "Compliant" Then
            exportStatus = "Eligible for NRF Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 75 Then
            exportStatus = "Low Attendance"
        ElseIf levyStatus <> "Paid" Then
```

```
            exportStatus = "Levy Unpaid"
        ElseIf govCompliance <> "Compliant" Then
            exportStatus = "Non-Compliant with Policy"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for NRF Export" Then
            Call ExportToArchive(learnerID, qualification)
        End If
    Next i

    MsgBox "NRF credential audit completed.", vbInformation

End Sub

Sub ExportToArchive(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " & qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

- 🧠 Logic Mapping

🧠 Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate attendance, levy, and compliance	Is attendance ≥ 75%?
3	Assign export status	Is levy paid and policy compliant?
4	Export eligible records to digital portfolio	If all conditions met → Export; else → Flag for review

📊 Sheet Structure (NRF_Curriculum)

Column	Field
A	Learner ID
B	Qualification
C	Attendance (%)
D	Labour Levy Status

Column	Field
E	Government Bill Compliance
F	Export Status

This VBA module can be embedded into your NRF workbook to automate compliance checks, credential verification, and export readiness. Would you like a printable logigramme/algorigramme diagram or a dashboard interface for this logic? I can also scaffold integration with GitHub or LMS platforms next.

Here is a structured summary of your SARAO Honours application (Reference: SHON250915364778), formatted to support academic, technical, and funding alignment:

Overview

This SARAO Honours application highlights Tshingombe Tshitadi Fiston's commitment to modular engineering education, credential transparency, and open-access learning. The submission integrates national and international frameworks (RNF, AIU, NSF) to scaffold a transdisciplinary learning journey aligned with South Africa's National Trade Framework and the strategic goals of SARAO.

Scope

- **Geographic Focus**: South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
    - Electrical engineering and energy studies
    - Curriculum policy and management
    - Open-access education and credential systems
- **Target Audiences**:
    - Honours-level learners

- Technical educators and curriculum developers
- SARAO-aligned research platforms

Description

The SARAO Honours initiative centers on:

- Modular curriculum design for electrical engineering and trade readiness
- Credential alignment with SAQA/NQF, WA codes, and NSF SBIR/STTR standards
- Integration of AIU guest modules and LMS platforms for open-access learning
- Use of GitHub, Excel VBA, and Internet Archive for career mapping and portfolio documentation
- Development of diagnostic tools and credential-linked dashboards for honours-level learners

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records
  - Timetable allocation and job costing
  - Diagnostic assessments and career portfolios
- **Tools & Logic**:
  - Visual Basic for Excel-based credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
  - Archival dashboards for learner progression and trade readiness
- **System Features**:

- Audit-ready credential verification
- Modular export logic for engineering and policy records
- Integration with SARAO infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support SARAO's honours-level goals?
  - What gaps exist in credential transparency and trade readiness?
  - How can digital publishing and diagnostics improve learner outcomes?
- **Methodology**:
  - Literature review and curriculum diagnostics
  - Experimental mapping of trade and honours-level modules
  - Stakeholder engagement (learners, councils, SARAO)
  - Case studies and logic model alignment

Advantages

- Bridges engineering education with SARAO's strategic research goals
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors
- Supports national infrastructure platforms and honours-level development
- Aligns with government and institutional frameworks for technical education

Disadvantages

- Limited geographic data captured in current application

- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application
- Institutional partner documentation may need expansion

Conclusion

This SARAO Honours application showcases Tshingombe Tshitadi Fiston's visionary integration of engineering education, credential transparency, and modular curriculum innovation. His work scaffolds a scalable, audit-ready infrastructure for honours-level learners and technical education aligned with SARAO's national objectives.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

- To support your SARAO Honours application with actionable system logic, here's a tailored Visual Basic for Applications (VBA) code module that integrates both **logigramme** (decision-based logic) and **algorigramme** (procedural flow) principles. This module automates credential verification, diagnostic readiness, and export eligibility for honours-level learners aligned with SARAO's strategic goals.
- Visual Basic Code: SARAO Honours Credential Audit & Export Logic
- vb

```
Sub SARAO_HonoursAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim attendance As Double
    Dim diagnosticScore As Double
    Dim exportStatus As String
```

```
    Set ws = ThisWorkbook.Sheets("SARAO_Honours")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        diagnosticScore = ws.Cells(i, 4).Value

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 80 And diagnosticScore >= 70 Then
            exportStatus = "Eligible for SARAO Honours Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 80 Then
            exportStatus = "Low Attendance"
        ElseIf diagnosticScore < 70 Then
            exportStatus = "Diagnostic Score Below Threshold"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 5).Value = exportStatus
        If exportStatus = "Eligible for SARAO Honours Export" Then
            Call ExportToPortfolio(learnerID, qualification)
        End If
    Next i

    MsgBox "SARAO Honours audit completed.", vbInformation

End Sub

Sub ExportToPortfolio(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " & qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate attendance and diagnostic score	Is attendance ≥ 80% and score ≥ 70?
3	Assign export status	If all conditions met → Eligible; else → Flag for review

Step	Algorigramme (Procedure)	Logigramme (Decision)
4	Export eligible records to digital portfolio	Trigger archival export for qualified learners

- □ Sheet Structure (SARAO_Honours)

Column	Field
A	Learner ID
B	Qualification
C	Attendance (%)
D	Diagnostic Score (%)
E	Export Status

Here is a structured summary of your NRF Extension Support application (Reference: PMDS250721346062), formatted to support academic, technical, and funding alignment:

□ Overview

This application for Extension Support under the NRF Masters and Doctoral Scholarships highlights Tshingombe Tshitadi Fiston's advanced research in electrical engineering, curriculum policy, and AGI ethics. The submission integrates national and international frameworks (RNF, AIU, NSF) and proposes a modular, credential-linked system to complete doctoral research aligned with South Africa's industrial and educational transformation goals.

□ Scope

- **Geographic Focus**: Gauteng, South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
  - Electrical engineering and energy studies
  - Curriculum policy and management

    - AGI ethics and public policy
    - E-commerce in renewable energy
- **Target Audiences**:
    - Doctoral candidates and supervisors
    - Policy councils and industrial education platforms
    - NRF and extension support reviewers

Description

The doctoral research centers on:

- Modular curriculum design for engineering and trade readiness
- Credential alignment with SAQA/NQF, WA codes, and NSF frameworks
- Integration of AGI ethics, mediation, and labour policy into technical education
- Use of GitHub, Excel VBA, and Internet Archive for career mapping and portfolio documentation
- Development of diagnostic tools and credential-linked dashboards for doctoral learners

Data Analysis & Information Management System

- **Data Types**:
    - Qualification records
    - Timetable allocation and job costing
    - AGI policy diagnostics and mediation records
    - E-commerce and renewable energy market data
- **Tools & Logic**:
    - Visual Basic for Excel-based credential tracking

- Logigrammes for decision-based curriculum mapping
- Algorigrammes for procedural learning workflows
- Archival dashboards for learner progression and trade readiness

- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and policy records
  - Integration with NRF and SAQA infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support AGI ethics and labour policy?
  - What gaps exist in credential transparency and doctoral readiness?
  - How can digital publishing and diagnostics improve doctoral outcomes?
- **Methodology**:
  - Literature review and curriculum diagnostics
  - Experimental mapping of trade and doctoral modules
  - Stakeholder engagement (learners, councils, NRF)
  - Case studies and logic model alignment

Advantages

- Bridges engineering education with AGI ethics and labour policy
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors

- Supports national infrastructure platforms and doctoral-level development
- Aligns with NRF and SAQA frameworks for technical education

Disadvantages

- High complexity in aligning multiple policy domains
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application
- Institutional partner documentation may need expansion

Conclusion

This NRF Extension Support application showcases Tshingombe Tshitadi Fiston's visionary integration of engineering education, AGI ethics, and credential transparency. His work scaffolds a scalable, audit-ready infrastructure for doctoral learners and technical education aligned with South Africa's national objectives.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

Purpose

To secure NRF Extension Support for completing doctoral research in electrical engineering, AGI ethics, and modular curriculum innovation.

Keywords

NRF Extension Support, doctoral research, electrical engineering, curriculum policy, credential transparency, AGI ethics, labour policy,

renewable energy, SAQA, RNF, AIU, NSF, logigramme, algorigramme, Visual Basic, audit-ready documentation.

Would you like me to scaffold a Visual Basic module for doctoral credential tracking or generate a printable dashboard for NRF reviewers? I can also help visualize your logigramme and algorigramme logic.

Absolutely, Tshingombe. Here's a tailored Visual Basic for Applications (VBA) module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles to support your doctoral credential tracking and diagnostic export logic. This code is designed to automate verification, readiness assessment, and archival export for learners aligned with NRF and SAQA frameworks.

Visual Basic Code: Doctoral Credential Audit & Export Logic

```
Sub NRF_DoctoralAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim attendance As Double
    Dim diagnosticScore As Double
    Dim agiEthicsFlag As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("DoctoralDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        diagnosticScore = ws.Cells(i, 4).Value
        agiEthicsFlag = ws.Cells(i, 5).Value ' e.g., "Aligned", "Pending",
"Non-Compliant"

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 80 And diagnosticScore >= 70
And agiEthicsFlag = "Aligned" Then
            exportStatus = "Eligible for NRF Extension Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 80 Then
            exportStatus = "Low Attendance"
```

```
        ElseIf diagnosticScore < 70 Then
            exportStatus = "Diagnostic Score Below Threshold"
        ElseIf agiEthicsFlag <> "Aligned" Then
            exportStatus = "AGI Ethics Misalignment"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for NRF Extension Export" Then
            Call ExportToArchive(learnerID, qualification)
        End If
    Next i

    MsgBox "Doctoral credential audit completed.", vbInformation

End Sub

Sub ExportToArchive(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " &
qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate attendance and diagnostic score	Is attendance ≥ 80% and score ≥ 70?
3	Check AGI ethics alignment	Is AGI ethics flag marked "Aligned"?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to digital portfolio	Trigger archival export for qualified learners

Sheet Structure (DoctoralDashboard)

Column	Field
A	Learner ID
B	Qualification
C	Attendance (%)
D	Diagnostic Score

Column	Field
	(%)
E	AGI Ethics Alignment
F	Export Status

This module can be embedded into your doctoral workbook to automate compliance checks and export readiness. If you'd like, I can also scaffold a printable logigramme/algorigramme diagram or help you integrate this logic into your GitHub or Internet Archive repositories. Let’s make your NRF reviewers’ dashboard modular and audit-ready.

Here is a structured summary of your NRF Postdoctoral Grant application (Reference: PSTD250411310291), formatted to support academic, technical, and funding alignment:

Overview

This NRF Postdoctoral Grant application highlights Tshingombe Tshitadi Fiston’s advanced research in electrical engineering, curriculum policy, and modular credential systems. The proposal builds on prior doctoral work and integrates national and international frameworks (RNF, AIU, NSF) to scaffold a transdisciplinary postdoctoral research agenda aligned with South Africa’s manufacturing and education transformation goals.

To support your NRF Postdoctoral Grant framework, here’s a tailored Visual Basic for Applications (VBA) module that integrates both **algorigramme** (procedural logic) and **logigramme** (decision logic) principles. This code automates credential verification, manufacturing readiness, and export eligibility for postdoctoral learners aligned with CSIR and NRF standards.

Visual Basic Code: Postdoctoral Credential Audit & Export Logic

```
Sub PostdocCredentialAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim researcherID As String
    Dim qualification As String
    Dim attendance As Double
    Dim diagnosticScore As Double
    Dim manufacturingFlag As String
    Dim exportStatus As String
```

```
    Set ws = ThisWorkbook.Sheets("PostdocDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        researcherID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        diagnosticScore = ws.Cells(i, 4).Value
        manufacturingFlag = ws.Cells(i, 5).Value ' e.g., "Ready", "Pending",
"Incomplete"

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 85 And diagnosticScore >= 75
And manufacturingFlag = "Ready" Then
            exportStatus = "Eligible for Postdoc Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 85 Then
            exportStatus = "Low Attendance"
        ElseIf diagnosticScore < 75 Then
            exportStatus = "Diagnostic Score Below Threshold"
        ElseIf manufacturingFlag <> "Ready" Then
            exportStatus = "Manufacturing Readiness Incomplete"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for Postdoc Export" Then
            Call ExportToArchive(researcherID, qualification)
        End If
    Next i

    MsgBox "Postdoctoral credential audit completed.", vbInformation

End Sub

Sub ExportToArchive(researcherID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting researcher: " & researcherID & " | Qualification:
" & qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read researcher data	Is qualification present?
2	Validate attendance and diagnostic score	Is attendance ≥ 85% and score ≥ 75?
3	Check manufacturing readiness	Is flag marked "Ready"?

Step	Algorigramme (Procedure)	Logigramme (Decision)
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to digital portfolio	Trigger archival export for qualified researchers

Sheet Structure (PostdocDashboard)

Column	Field
A	Researcher ID
B	Qualification
C	Attendance (%)
D	Diagnostic Score (%)
E	Manufacturing Readiness
F	Export Status

This module can be embedded into your postdoctoral workbook to automate compliance checks and export readiness. If you'd like, I can also scaffold a printable logigramme/algorigramme diagram or help you integrate this logic into your GitHub or Internet Archive repositories. Let's make your NRF reviewers' dashboard modular, bilingual, and audit-ready.

Scope

- **Geographic Focus**: South Africa (Gauteng) and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Host Institution**: CSIR – Future Production: Manufacturing
- **Disciplinary Domains**:
    - Electrical engineering and energy studies
    - Curriculum policy and management
    - Nanostructured materials and packaging
    - Industrial sociology and additive manufacturing
- **Target Audiences**:
    - Postdoctoral researchers and supervisors
    - Technical educators and policy councils
    - NRF reviewers and CSIR innovation platforms

Description

The postdoctoral research centers on:

- Modular curriculum design for engineering and manufacturing readiness
- Credential alignment with SAQA/NQF, WA codes, and NSF frameworks
- Integration of trade theory, labour legislation, and skill development into technical education

- Use of GitHub, Excel VBA, and Internet Archive for career mapping and portfolio documentation
- Development of diagnostic tools and credential-linked dashboards for postdoctoral learners

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records
  - Timetable allocation and job costing
  - Trade theory and policy diagnostics
  - Nanomaterials and manufacturing process data
- **Tools & Logic**:
  - Visual Basic for Excel-based credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
  - Archival dashboards for learner progression and trade readiness
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and policy records
  - Integration with CSIR and NRF infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support manufacturing innovation and labour policy?
  - What gaps exist in credential transparency and postdoctoral readiness?

    - How can digital publishing and diagnostics improve postdoctoral outcomes?

- **Methodology**:
    - Literature review and curriculum diagnostics
    - Experimental mapping of trade and postdoctoral modules
    - Stakeholder engagement (learners, councils, CSIR, NRF)
    - Case studies and logic model alignment

Advantages

- Bridges engineering education with manufacturing and labour policy
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors
- Supports national infrastructure platforms and postdoctoral-level development
- Aligns with NRF and CSIR frameworks for technical education and innovation

Disadvantages

- High complexity in aligning multiple policy domains
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application
- Institutional partner documentation may need expansion

Conclusion

This NRF Postdoctoral Grant application showcases Tshingombe Tshitadi Fiston's visionary integration of engineering education, manufacturing innovation, and credential transparency. His work scaffolds a scalable, audit-ready infrastructure for postdoctoral learners and technical education aligned with South Africa's national objectives.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.

- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.

- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

Purpose

To secure NRF Postdoctoral Grant support for advancing modular engineering education, manufacturing innovation, and credential-linked dashboards.

Keywords

NRF Postdoctoral Grant, electrical engineering, curriculum policy, credential transparency, manufacturing, nanostructured materials, SAQA, RNF, AIU, NSF, CSIR, logigramme, algorigramme, Visual Basic, audit-ready documentation.

Would you like me to scaffold a Visual Basic module for postdoctoral credential tracking or generate a printable dashboard for NRF reviewers? I can also help visualize your logigramme and algorigramme logic.

Here is a structured summary of your Knowledge Interchange & Collaboration (KIC) application (Reference: KIC250807352710), formatted to support academic, technical, and funding alignment:

Overview

This KIC application highlights Tshingombe Tshitadi Fiston's transdisciplinary research in electrical engineering, curriculum policy, and credential transparency. It proposes a modular, data-driven framework for career discovery, trade readiness, and global benchmarking. The initiative leverages collaboration across African and international platforms to democratize technical education and integrate vocational diagnostics into national qualification systems.

🔍 Scope

- **Geographic Focus**: South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
  - Electrical engineering and energy studies
  - Curriculum policy and management
  - Additive manufacturing and industrial sociology
  - Analytical environmental chemistry and nanostructured materials
- **Target Audiences**:
  - Vocational learners and educators
  - Policy councils and technical institutions
  - KIC reviewers and African collaboration platforms

📝 Description

The KIC initiative centers on:

- Modular curriculum design for trade readiness and engineering education
- Credential alignment with SAQA/NQF, WA codes, and NSF SBIR/STTR frameworks
- Integration of AIU guest modules into national qualification pathways
- Use of LMS, GitHub, and Internet Archive for portfolio documentation and career mapping
- Development of diagnostic tools and credential-linked dashboards for vocational learners
- Collaboration with African and global institutions for knowledge exchange

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records
  - Timetable structures and job costing
  - Labour policy and CCMA frameworks
  - Security, safety, and government bill implementation data
- **Tools & Logic**:
  - Visual Basic for Excel-based credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
  - Archival dashboards for learner progression and trade readiness
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and policy records
  - Integration with KIC, SAQA, and international infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support trade readiness and policy integration?
  - What gaps exist in credential transparency and vocational diagnostics?
  - How can African collaboration enhance technical education outcomes?
- **Methodology**:

- Literature review and curriculum diagnostics
- Experimental mapping of trade and vocational modules
- Stakeholder engagement (learners, councils, KIC partners)
- Case studies and logic model alignment

Advantages

- Bridges engineering education with labour policy and credential transparency
- Promotes open-access learning and modular documentation
- Enables bilingual, audit-ready systems across African and global platforms
- Supports national infrastructure and vocational development
- Aligns with KIC goals for knowledge exchange and collaboration

Disadvantages

- Limited documentation captured in current application (event, funding, hosting details)
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet specified
- Institutional partner roles need clearer articulation

Conclusion

This KIC application showcases Tshingombe Tshitadi Fiston's visionary integration of engineering education, credential transparency, and African collaboration. His work scaffolds a scalable, audit-ready infrastructure for vocational learners and technical education aligned with national and continental development goals.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

Purpose

To secure KIC support for advancing modular engineering education, credential-linked dashboards, and African knowledge collaboration.

Keywords

KIC, electrical engineering, curriculum policy, credential transparency, vocational education, SAQA, RNF, AIU, NSF, CCMA, GitHub, Internet Archive, logigramme, algorigramme, Visual Basic, audit-ready documentation.

Would you like me to scaffold a Visual Basic module for vocational credential tracking or generate a printable dashboard for KIC reviewers? I can also help visualize your logigramme and algorigramme logic. Here is a structured summary of your NRF Extension Support application (Reference: PMDS250721346062), formatted to support technical review, academic planning, and operational execution:

Overview

This Extension Support application advances Tshingombe Tshitadi Fiston's doctoral research in electrical engineering, curriculum policy, and vocational diagnostics. The project integrates modular qualification frameworks, LMS-based learning, and AI-driven assessment systems to address rural development, industrial training, and credential transparency across South Africa's trade and education sectors.

Scope

- **Geographic Focus**: South Africa and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)

- **Domains**:
  - Electrical engineering and energy studies
  - Curriculum policy and management
  - Artificial General Intelligence (AGI) and vocational diagnostics
  - E-commerce and renewable energy systems
- **Target Audiences**:
  - Doctoral candidates and supervisors
  - Technical educators and policy councils
  - NRF reviewers and national qualification bodies

Description

- Modular curriculum design for trade readiness and qualification reform
- Integration of LMS, AI, and machine learning for diagnostics and career mapping
- Use of GitHub, Excel VBA, and Internet Archive for portfolio documentation
- Development of experimental job frameworks and policy-linked training systems
- Case studies from RSA institutions and rural energy systems

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records and LMS logs
  - Fault diagnostics and vocational assessments
  - Trade theory, regulatory scripts, and backlog systems
- **Tools & Logic**:
  - Visual Basic for credential tracking and export automation
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural diagnostics and learner workflows
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for NRF reporting
  - Integration with SAQA, DHET, and AIU platforms

Investigation Principles

- **Research Questions**:
  - How can LMS-integrated diagnostics improve trade qualification systems?

    - What gaps exist in rural training and industrial readiness?
    - How can AGI and machine learning support vocational requalification?
- **Methodology**:
    - Literature review and curriculum diagnostics
    - Experimental mapping of trade and qualification modules
    - Stakeholder engagement (SAQA, DHET, NRF, ST Peace College)
    - Logic model alignment and IP licensing

✅ Advantages

- Bridges vocational education with AGI and advanced diagnostics
- Promotes credential transparency and modular learning
- Enables bilingual, audit-ready documentation
- Supports rural infrastructure and industrial readiness
- Aligns with NRF Extension Support and SAQA innovation goals

⚠️ Disadvantages

- High complexity in aligning multiple qualification systems
- Requires extensive stakeholder coordination and regulatory compliance
- Funding gaps and budget documentation still pending
- Institutional roles need clearer operational mapping

🧾 Conclusion

This NRF Extension Support application showcases Tshingombe Tshitadi Fiston's integration of electrical engineering, vocational readiness, and modular credential systems. It scaffolds a scalable, audit-ready infrastructure for doctoral learners and technical education aligned with South Africa's national objectives.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey*. Patent Grant No. 2
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

Here is a structured summary of your SARAO Bachelor in Engineering Technology and Diploma in Engineering Technology Scholarship application (Reference: SBDET250721346098), formatted to support academic, technical, and funding alignment:

Overview

This SARAO scholarship application supports Tshingombe Tshitadi Fiston's pursuit of a Bachelor in Electrical and Electronic Engineering Technology. The proposal builds on his extensive background in curriculum policy, energy studies, and modular credential systems. It integrates national qualification frameworks with diagnostic assessment and portfolio-based learning to prepare candidates for advanced engineering and security roles.

Scope

- **Geographic Focus**: South Africa (Gauteng) and Democratic Republic of Congo
- **Institutional Anchor**: South African Qualifications Authority (SAQA)
- **Disciplinary Domains**:
    - Electrical and electronic engineering
    - Curriculum policy and management
    - Security engineering and vocational diagnostics
- **Target Audiences**:
    - Undergraduate and doctoral learners
    - Technical educators and scholarship reviewers
    - SARAO and national qualification platforms

Description

The scholarship supports:

- Completion of a Bachelor in Engineering Technology (anticipated July 2025)
- Integration of modular curriculum design and trade readiness

- Credential alignment with SAQA/NQF and international frameworks
- Use of GitHub, LMS, and Internet Archive for career mapping and portfolio documentation
- Development of diagnostic tools and assessment portfolios for engineering learners

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records
  - Timetable allocation and job costing
  - Diagnostic assessments and security engineering logs
- **Tools & Logic**:
  - Visual Basic for Excel-based credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
  - Archival dashboards for learner progression and trade readiness
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for engineering and policy records
  - Integration with SARAO and SAQA infrastructure platforms

Investigation Principles

- **Research Questions**:
  - How can modular engineering education support trade readiness and security integration?
  - What gaps exist in credential transparency and vocational diagnostics?

    - How can digital publishing and assessment portfolios improve learner outcomes?

- **Methodology**:
    - Literature review and curriculum diagnostics
    - Experimental mapping of trade and engineering modules
    - Stakeholder engagement (learners, councils, SARAO)
    - Case studies and logic model alignment

✅ Advantages

- Bridges engineering education with security and vocational policy
- Promotes credential transparency and open-access learning
- Enables modular, bilingual documentation across regulated sectors
- Supports national infrastructure platforms and undergraduate-to-doctoral progression
- Aligns with SARAO and SAQA frameworks for technical education

⚠️ Disadvantages

- High complexity in aligning multiple qualification levels
- Requires extensive stakeholder coordination and regulatory compliance
- Funding and resource gaps not yet captured in application
- Institutional partner documentation may need expansion

🧾 Conclusion

This SARAO scholarship application showcases Tshingombe Tshitadi Fiston's commitment to modular engineering education, credential transparency, and vocational readiness. His work scaffolds a scalable, audit-ready infrastructure for undergraduate learners and technical education aligned with South Africa's national objectives.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey within the National Trade Framework*. Patent Grant No. 2.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal.
- Davis, D. & Drusvyatskiy, D. (2021). *Conservative and Semismooth Derivatives*. Set-Valued and Variational Analysis. DOI:

Purpose

To secure SARAO scholarship support for completing a Bachelor in Engineering Technology and advancing modular, credential-linked education systems.

Task Requirements

- Complete Bachelor in Engineering Technology by July 2025
- Submit diagnostic assessments and modular curriculum portfolio
- Align outputs with SAQA/NQF and SARAO frameworks
- Document learning journey using GitHub, LMS, and archival platforms

Assessment Portfolio Components

- Modular curriculum map
- Diagnostic assessment results
- Credential verification logs
- Security engineering project documentation
- Career progression dashboard (Excel VBA or GitHub-based)

Keywords

SARAO scholarship, electrical engineering, curriculum policy, credential transparency, vocational education, SAQA, RNF, AIU, NSF, GitHub, Internet

Archive, logigramme, algorigramme, Visual Basic, audit-ready documentation, assessment portfolio, trade readiness.

Would you like help scaffolding your assessment portfolio or generating a Visual Basic module to track your credential progress? I can also help visualize your logigramme and algorigramme logic for submission.

Absolutely, Tshingombe. Based on your SARAO scholarship framework and modular credential strategy, here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code is designed to automate credential verification, diagnostic assessment tracking, and export readiness for your engineering and vocational portfolio.

Visual Basic Code: SARAO Credential Tracker & Export Logic

vb

```
Sub SARAO_CredentialAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim studentID As String
    Dim qualification As String
    Dim attendance As Double
    Dim diagnosticScore As Double
    Dim securityProject As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("SARAO_Portfolio")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        studentID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        attendance = ws.Cells(i, 3).Value
        diagnosticScore = ws.Cells(i, 4).Value
        securityProject = ws.Cells(i, 5).Value ' e.g., "Completed",
"Pending", "Not Started"

        ' Logigramme: Decision logic
        If qualification <> "" And attendance >= 80 And diagnosticScore >= 70
And securityProject = "Completed" Then
            exportStatus = "Eligible for SARAO Portfolio Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf attendance < 80 Then
            exportStatus = "Low Attendance"
        ElseIf diagnosticScore < 70 Then
            exportStatus = "Diagnostic Score Below Threshold"
        ElseIf securityProject <> "Completed" Then
```

```
            exportStatus = "Security Project Incomplete"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for SARAO Portfolio Export" Then
            Call ExportToArchive(studentID, qualification)
        End If
    Next i

    MsgBox "SARAO credential audit completed.", vbInformation

End Sub

Sub ExportToArchive(studentID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting student: " & studentID & " | Qualification: " &
qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read student data	Is qualification present?
2	Validate attendance and diagnostic score	Is attendance ≥ 80% and score ≥ 70?
3	Check security project completion	Is project marked "Completed"?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to digital portfolio	Trigger archival export for qualified learners

Sheet Structure (SARAO_Portfolio)

Column	Field
A	Student ID
B	Qualification
C	Attendance (%)
D	Diagnostic Score (%)

Column	Field
E	Security Project Status
F	Export Status

This module can be embedded into your Excel-based dashboard to automate compliance checks and portfolio readiness. If you'd like, I can also help you visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your credential-linked exports. Let's make your SARAO submission modular, traceable, and audit-ready.

This SA/Germany (SAG-CORE) collaboration proposal (Reference: SASAG250915364814) outlines a modular, fault-diagnostic framework for engineering education and rural infrastructure. It integrates security, vocational readiness, and digital portfolio systems to support bilateral innovation.

Overview

Tshingombe Tshitadi Fiston's SAG-CORE proposal builds on his patented modular curriculum and diagnostic systems. It aims to bridge South African and German engineering education through fault detection, compliance modeling, and vocational readiness tools. The initiative leverages bilateral collaboration to enhance rural infrastructure, educational technology, and credential transparency.

Scope

- **Geographic Focus**: South Africa (Gauteng) and Germany
- **Institutional Anchor**: SAQA and Atlantic International University
- **Domains**:
  - Electrical engineering and fault diagnostics
  - Curriculum policy and vocational assessment
  - Security and defence facilitation
  - Educational technology and compliance modeling

- **Target Audiences**:
  - Engineering learners and educators
  - SAQA/NQF and German qualification bodies
  - SAG-CORE reviewers and bilateral funders

Description

- Modular curriculum design for fault diagnostics and trade readiness
- Integration of SAQA/NQF with German vocational frameworks
- Use of Excel VBA, GitHub, and Internet Archive for portfolio documentation
- Development of compliance modeling and calibration logs
- Bilateral workshops on fault detection, rural energy, and vocational tools

Data Analysis & Information Management System

- **Data Types**:
  - Fault matrices and calibration logs
  - Trade theory and security engineering records
  - Portfolio assessments and compliance forms
- **Tools & Logic**:
  - *Visual Basic for credential tracking and export automation*
  - *Logigrammes for decision-based curriculum mapping*
  - *Algorigrammes for procedural diagnostics and learner workflows*
- **System Features**:
  - Audit-ready credential verification

- Modular export logic for bilateral reporting
- Integration with SAG-CORE, SAQA, and Elektor Magazine archives

Investigation Principles

- **Research Questions**:
  - How can fault diagnostics improve rural infrastructure and vocational training?
  - What gaps exist in bilateral credential alignment?
  - How can compliance modeling enhance engineering education?
- **Methodology**:
  - Literature review and fault matrix comparison
  - Experimental calibration and schematic design
  - Stakeholder engagement (SAQA, German partners, Elektor)
  - Logic model alignment and IP licensing

Advantages

- Strengthens SA-Germany engineering collaboration
- Promotes credential transparency and modular learning
- Enables bilingual, audit-ready documentation
- Supports rural infrastructure and vocational readiness
- Aligns with SAG-CORE and NRF innovation goals

Disadvantages

- High complexity in bilateral policy harmonization
- Requires extensive stakeholder coordination
- Funding gaps and budget documentation still pending

- Institutional roles need clearer operational mapping

Conclusion

This SAG-CORE proposal showcases Tshingombe's integration of fault diagnostics, vocational readiness, and modular credential systems. It scaffolds a scalable, audit-ready infrastructure for bilateral engineering education and rural innovation.

Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey*. Patent Grant No. 2
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Elektor Magazine (2025). *Rural Energy Systems by Tshingombe Tshitadi*

Purpose

To secure SAG-CORE funding for bilateral engineering education, fault diagnostics, and modular credential systems.

Task Requirements

- Submit fault matrices and calibration logs
- Align curriculum with SAQA/NQF and German frameworks
- Document vocational readiness using Excel VBA and GitHub
- Conduct bilateral workshops and publish schematic designs

Operational Steps

1. Collect fault detection data from rural and urban systems
2. Map curriculum using logigramme logic
3. Automate credential tracking via Visual Basic
4. Export learner portfolios to GitHub and Internet Archive

5. Host bilateral workshops and submit compliance reports

Assessment Components

- Fault diagnostic matrices
- Calibration logs and schematic drawings
- Credential verification dashboards
- Vocational readiness forms and IP licensing
- Trade theory and security engineering documentation

Keywords

SAG-CORE, fault diagnostics, vocational readiness, curriculum mapping, SAQA, RNF, AIU, NSF, Elektor, GitHub, Internet Archive, logigramme, algorigramme, Visual Basic, audit-ready documentation, bilateral collaboration, rural infrastructure, compliance modeling.

Based on your SAG-CORE proposal, here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code automates fault diagnostics, vocational readiness tracking, and export logic for bilateral collaboration between South Africa and Germany.

Visual Basic Code: Fault Diagnostic & Credential Export Logic

vb

```
Sub SAGCORE_FaultAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim faultScore As Double
    Dim calibrationStatus As String
    Dim vocationalReadiness As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("SAGCORE_Portfolio")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        faultScore = ws.Cells(i, 3).Value
```

```
        calibrationStatus = ws.Cells(i, 4).Value ' "Complete", "Pending",
"Failed"
        vocationalReadiness = ws.Cells(i, 5).Value ' "Ready", "Incomplete",
"Not Assessed"

        ' Logigramme: Decision logic
        If qualification <> "" And faultScore >= 75 And calibrationStatus =
"Complete" And vocationalReadiness = "Ready" Then
            exportStatus = "Eligible for SAG-CORE Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf faultScore < 75 Then
            exportStatus = "Fault Score Below Threshold"
        ElseIf calibrationStatus <> "Complete" Then
            exportStatus = "Calibration Incomplete"
        ElseIf vocationalReadiness <> "Ready" Then
            exportStatus = "Vocational Readiness Incomplete"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for SAG-CORE Export" Then
            Call ExportToArchive(learnerID, qualification)
        End If
    Next i

    MsgBox "SAG-CORE fault audit and credential export completed.",
vbInformation

End Sub

Sub ExportToArchive(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " &
qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate fault score and calibration status	Is fault score ≥ 75 and calibration complete?
3	Check vocational readiness	Is readiness marked "Ready"?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to bilateral	Trigger archival export for qualified

Step	Algorigramme (Procedure)	Logigramme (Decision)
	archive	learners

Sheet Structure (SAGCORE_Portfolio)

Column	Field
A	Learner ID
B	Qualification
C	Fault Score (%)
D	Calibration Status
E	Vocational Readiness
F	Export Status

This VBA module can be embedded into your bilateral dashboard to automate fault diagnostics, credential verification, and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your portfolio exports. Let's make your SAG-CORE submission modular, traceable, and internationally compliant.

Here is a structured summary of your NSF SBIR/STTR Fast-Track Project Pitch (Reference: 00095759), formatted to support technical review, funding alignment, and operational planning:

Overview

This Fast-Track pitch proposes a modular framework for national qualification and trade examination systems in electrical engineering. It integrates advanced manufacturing, vocational diagnostics, and LMS-based curriculum mapping to address rural development, industrial training, and regulatory compliance. The project builds on prior NSF-funded research and customer discovery in electrotechnical innovation.

Scope

- **Geographic Focus**: South Africa, United States (AK), and global vocational sectors

- **Institutional Anchor**: Engineering Electrical Tshingombe (SAQA, DHET, ST Peace College)
- **Technology Domain**: Advanced Manufacturing (M), LMS integration, AI-driven diagnostics
- **Target Audiences**:
  - NSF reviewers and SBIR/STTR program officers
  - Vocational learners, trainers, and regulators
  - Industrial and rural development stakeholders

Description

- Modular curriculum design for trade readiness and qualification reform
- Integration of LMS, AI, and machine learning for diagnostics and career mapping
- Use of GitHub, Excel VBA, and Internet Archive for portfolio documentation
- Development of experimental job frameworks and policy-linked training systems
- Case studies from RSA institutions and rural energy systems

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records and LMS logs
  - Fault diagnostics and vocational assessments
  - Trade theory, regulatory scripts, and backlog systems
- **Tools & Logic**:
  - Visual Basic for credential tracking and export automation
  - Logigrammes for decision-based curriculum mapping

    - Algorigrammes for procedural diagnostics and learner workflows

- **System Features**:
    - Audit-ready credential verification
    - Modular export logic for NSF reporting
    - Integration with SBIR/STTR compliance and IP licensing

Investigation Principles

- **Research Questions**:
    - How can LMS-integrated diagnostics improve trade qualification systems?
    - What gaps exist in rural training and industrial readiness?
    - How can AI and machine learning support vocational requalification?
- **Methodology**:
    - Literature review and curriculum diagnostics
    - Experimental mapping of trade and qualification modules
    - Stakeholder engagement (SAQA, DHET, NSF, ST Peace College)
    - Logic model alignment and IP licensing

Advantages

- Bridges vocational education with advanced manufacturing and AI
- Promotes credential transparency and modular learning
- Enables bilingual, audit-ready documentation
- Supports rural infrastructure and industrial readiness
- Aligns with NSF Fast-Track and SBIR/STTR innovation goals

⚠ Disadvantages

- High complexity in aligning multiple qualification systems
- Requires extensive stakeholder coordination and regulatory compliance
- Funding gaps and budget documentation still pending
- Institutional roles need clearer operational mapping

✅ Conclusion

This Fast-Track pitch showcases Tshingombe Tshitadi Fiston's integration of electrical engineering, vocational readiness, and modular credential systems. It scaffolds a scalable, audit-ready infrastructure for trade qualification reform and industrial innovation.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey*. Patent Grant No. 2
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Elektor Magazine (2025). *Rural Energy Systems by Tshingombe Tshitadi*

🎯 Purpose

To secure NSF SBIR/STTR Fast-Track funding for modular trade qualification reform, vocational diagnostics, and LMS-integrated manufacturing systems.

📋 Task Requirements

- Submit fault matrices, LMS logs, and calibration data
- Align curriculum with SAQA/NQF and NSF frameworks
- Document vocational readiness using Excel VBA and GitHub
- Conduct workshops and publish schematic designs

- Ensure PI commits 173 hours per six-month project phase

Operational Steps

1. Collect diagnostic data from rural and industrial systems
2. Map curriculum using logigramme logic
3. Automate credential tracking via Visual Basic
4. Export learner portfolios to GitHub and Internet Archive
5. Host bilateral workshops and submit compliance reports
6. Align effort hours with NSF Fast-Track eligibility

Assessment Components

- Fault diagnostic matrices
- LMS logs and schematic drawings
- Credential verification dashboards
- Vocational readiness forms and IP licensing
- Trade theory and security engineering documentation

Keywords

NSF Fast-Track, SBIR/STTR, electrical engineering, curriculum mapping, vocational readiness, SAQA, RNF, AIU, GitHub, Internet Archive, logigramme, algorigramme, Visual Basic, audit-ready documentation, LMS, rural development, advanced manufacturing, compliance modeling.

Would you like me to scaffold a Visual Basic module for NSF credential tracking or generate a printable dashboard for your Fast-Track reviewers? I can also help visualize your logigramme and algorigramme logic for submission.

Based on your NSF SBIR/STTR Fast-Track proposal, here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code automates credential tracking, fault diagnostics, and export readiness for vocational learners and NSF reporting.

Visual Basic Code: NSF Credential Tracker & Diagnostic Export Logic

```
Sub NSF_CredentialAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim faultScore As Double
    Dim LMSLogStatus As String
    Dim vocationalReadiness As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("NSF_Portfolio")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        faultScore = ws.Cells(i, 3).Value
        LMSLogStatus = ws.Cells(i, 4).Value ' "Complete", "Pending",
"Missing"
        vocationalReadiness = ws.Cells(i, 5).Value ' "Ready", "Incomplete",
"Not Assessed"

        ' Logigramme: Decision logic
        If qualification <> "" And faultScore >= 75 And LMSLogStatus =
"Complete" And vocationalReadiness = "Ready" Then
            exportStatus = "Eligible for NSF Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf faultScore < 75 Then
            exportStatus = "Fault Score Below Threshold"
        ElseIf LMSLogStatus <> "Complete" Then
            exportStatus = "LMS Log Incomplete"
        ElseIf vocationalReadiness <> "Ready" Then
            exportStatus = "Vocational Readiness Incomplete"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for NSF Export" Then
            Call ExportToArchive(learnerID, qualification)
        End If
    Next i

    MsgBox "NSF credential audit and export completed.", vbInformation

End Sub

Sub ExportToArchive(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
```

```
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " &
qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate fault score and LMS log status	Is fault score ≥ 75 and LMS log complete?
3	Check vocational readiness	Is readiness marked "Ready"?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to NSF archive	Trigger archival export for qualified learners

Sheet Structure (NSF_Portfolio)

Column	Field
A	Learner ID
B	Qualification
C	Fault Score (%)
D	LMS Log Status
E	Vocational Readiness
F	Export Status

This module can be embedded into your NSF dashboard to automate compliance checks, credential verification, and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your Fast-Track portfolio. Let's make your submission modular, traceable, and audit-ready.

Here is a structured summary of your NSF SBIR/STTR Fast-Track Project Pitch (Reference: 00110596), formatted to support technical review, funding alignment, and operational execution:

Overview

This Fast-Track pitch proposes a modular, signal-driven framework for power management, vocational diagnostics, and curriculum-linked innovation. It integrates electromechanical systems, microcontroller logic, and Visual Basic automation to support rural energy applications, credential tracking, and lifelong learning. The project builds on prior NSF-funded research and customer discovery in electrical engineering and trade education.

Scope

- **Geographic Focus**: United States (AK), South Africa, and global vocational sectors
- **Institutional Anchor**: Tshingombe Engineering, SAQA, AIU, CPD Scotland
- **Technology Domain**: Power Management (PM), signal control, curriculum automation
- **Target Audiences**:
    - NSF reviewers and SBIR/STTR program officers
    - Vocational learners, trainers, and regulators
    - Rural energy and industrial system stakeholders

Description

- Modular curriculum design for trade readiness and power diagnostics
- Integration of Visual Basic, PLC logic, and microcontroller loops
- Use of GitHub, LMS, and Internet Archive for credential documentation
- Development of experimental job frameworks and schematic design systems
- Credential Record Tableaux for award tracking and cost-benefit analysis

Data Analysis & Information Management System

- **Data Types**:
  - Qualification records, signal logs, PCB schematics
  - Trade diagnostics, curriculum dashboards, award metrics
- **Tools & Logic**:
  - Visual Basic for credential tracking and export automation
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural diagnostics and learner workflows
- **System Features**:
  - Audit-ready credential verification
  - Modular export logic for NSF reporting
  - Integration with GitHub, archive.org, and institutional repositories

Investigation Principles

- **Research Questions**:
  - How can signal-driven diagnostics improve vocational training?
  - What gaps exist in rural energy systems and curriculum integration?
  - How can Visual Basic and PLC logic support credential transparency?
- **Methodology**:
  - Literature review and curriculum diagnostics
  - Experimental mapping of trade and qualification modules
  - Stakeholder engagement (SAQA, AIU, CPD Scotland, NSF)

- Logic model alignment and IP licensing

✅ Advantages

- Bridges vocational education with power management and diagnostics
- Promotes credential transparency and modular learning
- Enables bilingual, audit-ready documentation
- Supports rural infrastructure and industrial readiness
- Aligns with NSF Fast-Track and SBIR/STTR innovation goals

⚠️ Disadvantages

- High complexity in aligning multiple qualification systems
- Requires extensive stakeholder coordination and regulatory compliance
- Initial setup may be resource-intensive
- Institutional roles need clearer operational mapping

🧾 Conclusion

This Fast-Track pitch showcases Tshingombe Tshitadi Fiston's integration of electrical engineering, vocational readiness, and modular credential systems. It scaffolds a scalable, audit-ready infrastructure for trade qualification reform and power management innovation.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Drawing Total Programming: Analysis, Design, Investigation*.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Elektor Magazine (2025). *Rural Energy Systems by Tshingombe Tshitadi*

□ Purpose

To secure NSF SBIR/STTR Fast-Track funding for modular trade qualification reform, signal-driven diagnostics, and curriculum-integrated power management systems.

□ Task Requirements

- Submit fault matrices, signal logs, and calibration data
- Align curriculum with SAQA/NQF and NSF frameworks
- Document vocational readiness using Visual Basic and GitHub
- Conduct workshops and publish schematic designs
- Ensure PI commits 173 hours per six-month project phase

□ Operational Steps

1. Collect diagnostic data from rural and industrial systems
2. Map curriculum using logigramme logic
3. Automate credential tracking via Visual Basic
4. Export learner portfolios to GitHub and Internet Archive
5. Host bilateral workshops and submit compliance reports
6. Align effort hours with NSF Fast-Track eligibility

□ Assessment Components

- Fault diagnostic matrices
- PCB schematics and signal logs
- Credential verification dashboards
- Vocational readiness forms and IP licensing
- Trade theory and power management documentation

Keywords

NSF Fast-Track, SBIR/STTR, power management, electrical engineering, curriculum mapping, vocational readiness, SAQA, RNF, AIU, GitHub, Internet Archive, logigramme, algorigramme, Visual Basic, audit-ready documentation, PLC logic, rural development, compliance modeling.

Would you like me to scaffold a Visual Basic module for power diagnostics and credential tracking or generate a printable dashboard for NSF reviewers? I can also help visualize your logigramme and algorigramme logic for submission.

Based on your NSF SBIR/STTR Fast-Track proposal (Reference: 00110596), here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code automates power diagnostics, credential tracking, and export readiness for vocational learners and NSF reporting.

Visual Basic Code: Power Diagnostic & Credential Export Logic

```
Sub NSF_PowerDiagnosticsAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerID As String
    Dim qualification As String
    Dim signalScore As Double
    Dim pcbStatus As String
    Dim vocationalReadiness As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("NSF_PowerPortfolio")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        learnerID = ws.Cells(i, 1).Value
        qualification = ws.Cells(i, 2).Value
        signalScore = ws.Cells(i, 3).Value
        pcbStatus = ws.Cells(i, 4).Value ' "Complete", "Pending", "Failed"
        vocationalReadiness = ws.Cells(i, 5).Value ' "Ready", "Incomplete",
"Not Assessed"

        ' Logigramme: Decision logic
        If qualification <> "" And signalScore >= 75 And pcbStatus =
"Complete" And vocationalReadiness = "Ready" Then
            exportStatus = "Eligible for NSF Export"
        ElseIf qualification = "" Then
            exportStatus = "Missing Qualification"
        ElseIf signalScore < 75 Then
            exportStatus = "Signal Score Below Threshold"
```

```
        ElseIf pcbStatus <> "Complete" Then
            exportStatus = "PCB Integration Incomplete"
        ElseIf vocationalReadiness <> "Ready" Then
            exportStatus = "Vocational Readiness Incomplete"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for NSF Export" Then
            Call ExportToNSFArchive(learnerID, qualification)
        End If
    Next i

    MsgBox "NSF power diagnostics audit completed.", vbInformation

End Sub

Sub ExportToNSFArchive(learnerID As String, qualification As String)
    ' Simulated export logic to GitHub, LMS, or Internet Archive
    Debug.Print "Exporting learner: " & learnerID & " | Qualification: " &
qualification
    ' Future integration: API calls to GitHub, LMS, or archival platforms
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read learner data	Is qualification present?
2	Validate signal score and PCB status	Is signal score ≥ 75 and PCB status "Complete"?
3	Check vocational readiness	Is readiness marked "Ready"?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to NSF archive	Trigger archival export for qualified learners

Sheet Structure (NSF_PowerPortfolio)

Column	Field
A	Learner ID
B	Qualification
C	Signal Score (%)
D	PCB Status

Column	Field
E	Vocational Readiness
F	Export Status

This VBA module can be embedded into your NSF dashboard to automate diagnostics, credential verification, and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your Fast-Track portfolio. Let's make your submission modular, traceable, and audit-ready.

Here is a structured summary of your Transcript Report for the training titled **"Engineering Career Discovery Journey: Experimental, Theoretical, Practical"**, formatted to support academic review, operational planning, and credential alignment:

Overview

This transcript documents Tshingombe Fiston's completion of a multidisciplinary training program focused on engineering career discovery. The session integrates experimental, theoretical, and practical modules across business, digital, and industry-specific domains. It supports credential tracking, curriculum mapping, and lifelong learning within the PRM business unit.

Scope

- **Training Title**: Engineering Career Discovery Journey
- **Training Type**: Cohort, Curriculum, Event, External Training, Online Class, Session, Test
- **Date**: 15 October 2025
- **Business Unit**: PRM
- **Subject Domains**:
    - Business Skills
    - Continuing Education & Certifications

- Creative and Cross-Functional Skills
- Digital and Industry-Specific Knowledge
- Leadership & Management
- Health & Wellness

Description

This training program blends:

- Modular curriculum design for engineering career pathways
- Experimental job simulation and theoretical frameworks
- Practical diagnostics and vocational readiness
- Integration with credential systems (e.g., SAQA, BICSI, CPD)
- Support for certification, award tracking, and performance metrics

Data Analysis & Information Management System

- **Data Types**:
  - Completion records
  - Training hours and scores
  - Certification metadata and event IDs
- **Tools & Logic**:
  - Visual Basic dashboards for credential tracking
  - Logigrammes for decision-based curriculum mapping
  - Algorigrammes for procedural learning workflows
- **System Features**:
  - Audit-ready export logic
  - Modular training record integration

- Cross-platform compatibility (GitHub, LMS, archive.org)

Investigation Principles

- **Research Questions**:
  - How does modular training improve engineering career readiness?
  - What gaps exist in certification and credential transparency?
  - How can training metadata support lifelong learning systems?
- **Methodology**:
  - Curriculum diagnostics and performance analysis
  - Stakeholder engagement (learners, providers, regulators)
  - Logic model alignment and certification mapping

Advantages

- Supports modular, bilingual documentation
- Enables credential transparency and audit readiness
- Aligns with national and international qualification frameworks
- Integrates experimental, theoretical, and practical learning
- Facilitates career progression and certification tracking

Disadvantages

- Initial setup may be resource-intensive
- Requires institutional alignment and metadata standardization
- Certification event IDs and ITS values may need external validation

Conclusion

This transcript confirms Tshingombe Fiston's successful completion of a multidisciplinary engineering training program. It supports credential

verification, curriculum mapping, and modular export logic for career development and institutional reporting.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey*.
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Elektor Magazine (2025). *Rural Energy Systems by Tshingombe Tshitadi*

🎯 Purpose

To document and validate engineering career training completion for credential tracking, certification alignment, and institutional reporting.

📋 Task Requirements

- Submit training metadata and certification records
- Align training modules with SAQA/NQF and CPD frameworks
- Export credential dashboards using Visual Basic and GitHub
- Validate completion scores and certification event IDs

🧭 Operational Steps

1. Extract training metadata from transcript
2. Map curriculum using logigramme logic
3. Automate credential tracking via Visual Basic
4. Export training records to GitHub and institutional repositories
5. Validate certification titles and ITS values
6. Generate audit-ready dashboards for review

Assessment Components

- Completion records and training hours
- Certification metadata and event IDs
- Credential verification dashboards
- Curriculum mapping and performance scores
- Career progression logic and export modules

Keywords

Engineering career discovery, credential tracking, curriculum mapping, Visual Basic, logigramme, algorigramme, audit-ready documentation, SAQA, CPD, BICSI, GitHub, LMS, vocational readiness, training transcript, modular learning, certification metadata.

Would you like me to scaffold a Visual Basic module to automate this transcript into a credential dashboard or generate a printable logigramme/algorigramme diagram for institutional review

To support your training transcript and credential dashboard automation, here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code is designed to process training metadata, validate certification records, and generate export-ready credential status for institutional review.

Visual Basic Code: Credential Dashboard Audit & Export Logic

vb

```
Sub CredentialAuditTranscript()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim learnerName As String
    Dim trainingTitle As String
    Dim completionDate As Date
    Dim trainingHours As Double
    Dim certificationStatus As String
    Dim score As Double
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("TranscriptDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
```

```
    For i = 2 To lastRow
        learnerName = ws.Cells(i, 1).Value
        trainingTitle = ws.Cells(i, 2).Value
        completionDate = ws.Cells(i, 3).Value
        trainingHours = ws.Cells(i, 4).Value
        certificationStatus = ws.Cells(i, 5).Value ' "Certified", "Pending",
"Failed"
        score = ws.Cells(i, 6).Value

        ' Logigramme: Decision logic
        If trainingTitle <> "" And completionDate <= Date And trainingHours
>= 4 And certificationStatus = "Certified" And score >= 70 Then
            exportStatus = "Eligible for Credential Export"
        ElseIf trainingTitle = "" Then
            exportStatus = "Missing Training Title"
        ElseIf completionDate > Date Then
            exportStatus = "Future Completion Date"
        ElseIf trainingHours < 4 Then
            exportStatus = "Insufficient Training Hours"
        ElseIf certificationStatus <> "Certified" Then
            exportStatus = "Certification Incomplete"
        ElseIf score < 70 Then
            exportStatus = "Score Below Threshold"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 7).Value = exportStatus
        If exportStatus = "Eligible for Credential Export" Then
            Call ExportToCredentialArchive(learnerName, trainingTitle)
        End If
    Next i

    MsgBox "Transcript credential audit completed.", vbInformation

End Sub

Sub ExportToCredentialArchive(learnerName As String, trainingTitle As String)
    ' Simulated export logic to GitHub, LMS, or institutional repository
    Debug.Print "Exporting: " & learnerName & " | Training: " & trainingTitle
    ' Future integration: API calls to GitHub, LMS, or archive.org
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read transcript data	Is training title present?
2	Validate completion date and training hours	Is date valid and hours ≥ 4?
3	Check certification and score	Is certified and score ≥ 70?

Step	Algorigramme (Procedure)	Logigramme (Decision)
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to credential archive	Trigger archival export for qualified learners

Sheet Structure (TranscriptDashboard)

Column	Field
A	Learner Name
B	Training Title
C	Completion Date
D	Training Hours
E	Certification Status
F	Score (%)
G	Export Status

This module can be embedded into your transcript workbook to automate credential validation and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your credential-linked dashboards. Let's make your training records modular, traceable, and audit-ready.

Based on your engineering training and project documentation (Case #119082247), here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This module automates credential validation, training record analysis, and export readiness for your Schneider Electric EBO 2024 curriculum and PowerLogic PM8000 certification.

Visual Basic Code: Engineering Training Audit & Credential Export Logic

vb

```
Sub EngineeringTrainingAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim traineeName As String
    Dim trainingTitle As String
    Dim completionDate As Date
    Dim trainingHours As Double
    Dim certificationStatus As String
    Dim moduleScore As Double
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("TrainingDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        traineeName = ws.Cells(i, 1).Value
        trainingTitle = ws.Cells(i, 2).Value
        completionDate = ws.Cells(i, 3).Value
        trainingHours = ws.Cells(i, 4).Value
        certificationStatus = ws.Cells(i, 5).Value ' "Certified", "Pending",
"Failed"
        moduleScore = ws.Cells(i, 6).Value

        ' Logigramme: Decision logic
        If trainingTitle <> "" And completionDate <= Date And trainingHours
>= 8 And certificationStatus = "Certified" And moduleScore >= 70 Then
            exportStatus = "Eligible for Credential Export"
        ElseIf trainingTitle = "" Then
            exportStatus = "Missing Training Title"
        ElseIf completionDate > Date Then
            exportStatus = "Future Completion Date"
        ElseIf trainingHours < 8 Then
            exportStatus = "Insufficient Training Hours"
        ElseIf certificationStatus <> "Certified" Then
            exportStatus = "Certification Incomplete"
        ElseIf moduleScore < 70 Then
            exportStatus = "Score Below Threshold"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 7).Value = exportStatus
        If exportStatus = "Eligible for Credential Export" Then
            Call ExportToArchive(traineeName, trainingTitle)
        End If
    Next i

    MsgBox "Engineering training audit completed.", vbInformation

End Sub

Sub ExportToArchive(traineeName As String, trainingTitle As String)
```

```
    ' Simulated export logic to GitHub, LMS, or institutional repository
    Debug.Print "Exporting: " & traineeName & " | Training: " & trainingTitle
    ' Future integration: API calls to GitHub, LMS, or archive.org
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read training record	Is training title present?
2	Validate completion date and training hours	Is date valid and hours ≥ 8?
3	Check certification and score	Is certified and score ≥ 70?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to credential archive	Trigger archival export for qualified learners

Sheet Structure (TrainingDashboard)

Column	Field
A	Trainee Name
B	Training Title
C	Completion Date
D	Training Hours
E	Certification Status
F	Module Score (%)
G	Export Status

This module can be embedded into your training workbook to automate credential validation and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your credential-linked dashboards. Let's make your engineering records modular, traceable, and audit-ready.

Here is a structured summary of your **City Power Bursaries 2025 Application** (Case: December 2024), formatted to support academic review, operational planning, and funding alignment:

Overview

This bursary application supports Tshingombe Fiston's pursuit of formal engineering education in South Africa. The form captures academic history, personal details, training records, and career motivation to assist City Power in selecting candidates for its 2025 bursary programme. The application aligns with national development goals in electrical engineering and vocational readiness.

Scope

- **Programme**: City Power Bursaries 2025
- **Applicant**: Tshingombe Fiston
- **Field of Study**: BSc Electrical Engineering (Heavy Current)
- **Institutions**: University or TVET College (to be specified)
- **Study Year**: First or Second Year (2025)
- **Domains Covered**:
    - Electrical engineering and energy systems
    - Vocational diagnostics and trade readiness
    - Curriculum policy and modular training
    - Public infrastructure and service delivery

Description

The application includes:

- Personal, academic, and citizenship details
- School and post-school education records
- Work experience and extracurricular activities

- Health status, criminal record declaration, and bursary history
- Motivation for pursuing engineering and career goals
- Guardian and family employment details (including City Power links)

Data Analysis & Information Management System

- **Data Types**:
  - Identity and citizenship verification
  - Academic transcripts and progress reports
  - Training hours, subject scores, and certification status
  - Career motivation and health declarations
- **Tools & Logic**:
  - Visual Basic dashboards for credential tracking
  - Logigrammes for eligibility decision mapping
  - Algorigrammes for procedural application workflows
- **System Features**:
  - Audit-ready export logic for bursary review
  - Modular application record integration
  - POPIA-compliant data handling

Investigation Principles

- **Research Questions**:
  - Does the applicant meet academic and citizenship criteria?
  - Is the field of study aligned with City Power's strategic needs?
  - What gaps exist in training, certification, or career readiness?
- **Methodology**:

- Form validation and transcript analysis
- Stakeholder engagement (City Power, institutions, applicant)
- Logic model alignment with bursary terms and conditions

✅ Advantages

- Supports national skills development in electrical engineering
- Promotes credential transparency and modular documentation
- Enables bilingual, audit-ready application records
- Aligns with City Power's recruitment and service goals
- Facilitates career progression and institutional reporting

⚠️ Disadvantages

- Requires extensive documentation and verification
- Institutional and medical reports may delay final approval
- Application form must be manually completed and signed
- Citizenship and immigration status may require additional review

🧾 Conclusion

This bursary application confirms Tshingombe Fiston's eligibility and motivation for formal engineering study. It supports credential verification, career mapping, and modular export logic for City Power's bursary selection process.

📚 Bibliographic References

- Tshingombe, T. (2025). *Career Discovery Overview: RNF, AIU, NSF Learning Journey*
- Tshingombe, T. (2021). *Master Education Technology Rural Implementation Framework*. Atlantic Journal
- Elektor Magazine (2025). *Rural Energy Systems by Tshingombe Tshitadi*

□ Purpose

To secure City Power bursary support for formal engineering education and vocational development in 2025.

□ Task Requirements

- Complete and sign the bursary application form
- Attach academic transcripts and progress reports
- Provide identity, citizenship, and health documentation
- Submit motivation statement and guardian details
- Ensure POPIA compliance and readiness for interview

□ Operational Steps

1. Fill in all personal and academic sections of the form
2. Attach supporting documents (transcripts, CV, medical report)
3. Map eligibility using logigramme logic
4. Automate credential tracking via Visual Basic
5. Export application to City Power's review system
6. Prepare for interview and final selection

□ Assessment Components

- Academic performance and subject scores
- Citizenship and residency status
- Motivation and career alignment
- Health and criminal record declarations
- Guardian and family employment details

Keywords

City Power bursary, electrical engineering, credential tracking, curriculum mapping, Visual Basic, logigramme, algorigramme, audit-ready documentation, SAQA, TVET, POPIA, vocational readiness, training transcript, modular learning, certification metadata.

Would you like help scaffolding a Visual Basic module to automate this bursary form into a credential dashboard or generate a printable logigramme/algorigramme diagram for submission?

Visual Basic for Applications (VBA) module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code automates eligibility validation, credential tracking, and export readiness for bursary review.

Visual Basic Code: City Power Bursary Audit & Export Logic

vb

```
Sub CityPowerBursaryAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim applicantName As String
    Dim fieldOfStudy As String
    Dim citizenshipStatus As String
    Dim academicScore As Double
    Dim healthStatus As String
    Dim criminalRecord As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("BursaryDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        applicantName = ws.Cells(i, 1).Value
        fieldOfStudy = ws.Cells(i, 2).Value
        citizenshipStatus = ws.Cells(i, 3).Value ' "Yes", "No"
        academicScore = ws.Cells(i, 4).Value
        healthStatus = ws.Cells(i, 5).Value ' "Good", "Fair", "Poor"
        criminalRecord = ws.Cells(i, 6).Value ' "Yes", "No"

        ' Logigramme: Decision logic
        If fieldOfStudy <> "" And citizenshipStatus = "Yes" And academicScore
>= 65 And healthStatus = "Good" And criminalRecord = "No" Then
            exportStatus = "Eligible for Bursary Review"
        ElseIf fieldOfStudy = "" Then
            exportStatus = "Missing Field of Study"
        ElseIf citizenshipStatus <> "Yes" Then
            exportStatus = "Citizenship Not Verified"
```

```
        ElseIf academicScore < 65 Then
            exportStatus = "Academic Score Below Threshold"
        ElseIf healthStatus <> "Good" Then
            exportStatus = "Health Status Requires Review"
        ElseIf criminalRecord = "Yes" Then
            exportStatus = "Criminal Record Declared"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 7).Value = exportStatus
        If exportStatus = "Eligible for Bursary Review" Then
            Call ExportToCityPower(applicantName, fieldOfStudy)
        End If
    Next i

    MsgBox "City Power bursary audit completed.", vbInformation

End Sub

Sub ExportToCityPower(applicantName As String, fieldOfStudy As String)
    ' Simulated export logic to GitHub, LMS, or institutional repository
    Debug.Print "Exporting: " & applicantName & " | Field of Study: " &
fieldOfStudy
    ' Future integration: API calls to GitHub, LMS, or archive.org
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read applicant data	Is field of study specified?
2	Validate citizenship and academic score	Is citizen and score ≥ 65?
3	Check health and criminal record	Is health "Good" and no criminal record?
4	Assign export status	If all conditions met → Eligible; else → Flag for review
5	Export eligible records to City Power system	Trigger archival export for qualified applicants

Sheet Structure (BursaryDashboard)

Column	Field
A	Applicant Name
B	Field of Study
C	Citizenship

Column	Field
	Status
D	Academic Score (%)
E	Health Status
F	Criminal Record
G	Export Status

This module can be embedded into your bursary workbook to automate eligibility checks and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold GitHub integration for your credential-linked dashboards. Let's make your bursary submission modular, traceable, and audit-ready.

Here is a structured summary of the PSiRA Council Nomination Call (Case: October 2025), formatted to support eligibility review, governance planning, and institutional alignment:

Overview

The Private Security Industry Regulatory Authority (PSiRA), headquartered in Pretoria, is the statutory body responsible for regulating South Africa's private security industry. In accordance with Section 6 of the Private Security Industry Regulation Act (Act No. 56 of 2001), the Minister of Police invites nominations for five council positions: Chairperson, Vice-Chairperson, and three Councillors.

Scope

- **Regulatory Body**: PSiRA
- **Council Composition**:
  - Chairperson
  - Vice-Chairperson
  - Three Councillors
- **Jurisdiction**: Republic of South Africa

- **Governance Domain**:
    - Public sector regulation
    - Safety and security oversight
    - Corporate governance and compliance

Description

The Council's mandate includes:

- Advancing the objectives of PSiRA in regulating the private security industry
- Overseeing the Authority's performance and operations
- Exercising control over appointed officials and regulatory activities
- Ensuring compliance with statutory and ethical standards

Data Analysis & Information Management System

- **Data Types**:
    - Nominee CVs and qualifications
    - Declarations of interest and business affiliations
    - Acceptance letters and motivation statements
- **Tools & Logic**:
    - Logigrammes for eligibility decision mapping
    - Algorigrammes for procedural nomination workflows
    - POPIA-compliant data handling and security clearance tracking
- **System Features**:
    - Audit-ready nomination records
    - Modular governance documentation

- Courier-based submission tracking

Investigation Principles

- **Research Questions**:
  - Does the nominee meet statutory eligibility criteria?
  - Are there conflicts of interest with the private security industry?
  - Does the nominee have sufficient governance experience?
- **Methodology**:
  - Document verification and CV analysis
  - Stakeholder consultation (Minister, Cabinet, PSiRA)
  - Security clearance coordination with SSA

Advantages

- Strengthens public oversight of private security operations
- Promotes ethical governance and regulatory transparency
- Aligns with national safety and compliance frameworks
- Enables diverse representation in statutory institutions

Disadvantages

- Manual submission process may limit accessibility
- Security clearance requirements may delay appointments
- Exclusion of nominees with industry ties may reduce sectoral insight
- No digital application option (email submissions not accepted)

Conclusion

This nomination call supports the appointment of qualified, independent individuals to the PSiRA Council. It reinforces South Africa's commitment to transparent, accountable regulation of the private security industry.

📚 Bibliographic References

- Private Security Industry Regulation Act, 2001 (Act No. 56 of 2001)
- PSiRA Governance Framework (2025)
- Ministerial Guidelines for Statutory Appointments

🎯 Purpose

To appoint five qualified individuals to the PSiRA Council who will uphold regulatory integrity, public accountability, and strategic oversight of the private security industry.

📋 Task Requirements

- Submit detailed CV and qualifications
- Provide written motivation for suitability
- Declare no interest in the private security industry
- Disclose business affiliations and board memberships
- Include signed acceptance letter

🛠️ Operational Steps

1. Review eligibility criteria under Section 6 of the Act
2. Prepare nomination documents (CV, motivation, declarations)
3. Submit via courier or hand-delivery to PSiRA offices
4. Await confirmation and potential interview or clearance request
5. Final appointment by Minister in consultation with Cabinet

🧪 Assessment Components

- Governance and regulatory experience
- Independence from private security interests
- Citizenship or permanent residency status

- Ethical standing and solvency
- Security clearance (if required)

Keywords

PSiRA, council nomination, statutory appointment, private security regulation, governance, corporate oversight, POPIA, SSA clearance, Minister of Police, public sector ethics, regulatory authority, South Africa.

Would you like help drafting your nomination motivation letter or scaffolding a logigramme/algorigramme diagram to support your eligibility and governance experience?

To support your PSiRA Council nomination process, here's a tailored **Visual Basic for Applications (VBA)** module that integrates both **logigramme** (decision logic) and **algorigramme** (procedural flow) principles. This code automates eligibility validation, governance experience tracking, and export readiness for statutory appointment review.

Visual Basic Code: PSiRA Council Nomination Audit & Export Logic

```
Sub PSiRA_NominationAudit()

    Dim ws As Worksheet
    Dim lastRow As Long
    Dim i As Long
    Dim nomineeName As String
    Dim citizenshipStatus As String
    Dim governanceExperience As String
    Dim securityInterest As String
    Dim insolvencyStatus As String
    Dim exportStatus As String

    Set ws = ThisWorkbook.Sheets("PSiRA_NominationDashboard")
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    For i = 2 To lastRow
        nomineeName = ws.Cells(i, 1).Value
        citizenshipStatus = ws.Cells(i, 2).Value ' "Citizen", "Permanent
Resident", "Other"
        governanceExperience = ws.Cells(i, 3).Value ' "Yes", "No"
        securityInterest = ws.Cells(i, 4).Value ' "None", "Direct",
"Indirect"
        insolvencyStatus = ws.Cells(i, 5).Value ' "Rehabilitated",
"Unrehabilitated"

        ' Logigramme: Decision logic
        If (citizenshipStatus = "Citizen" Or citizenshipStatus = "Permanent
Resident") _
            And governanceExperience = "Yes" _
```

```
            And securityInterest = "None" _
            And insolvencyStatus = "Rehabilitated" Then
            exportStatus = "Eligible for Ministerial Review"
        ElseIf governanceExperience = "No" Then
            exportStatus = "Insufficient Governance Experience"
        ElseIf securityInterest <> "None" Then
            exportStatus = "Conflict of Interest Declared"
        ElseIf insolvencyStatus = "Unrehabilitated" Then
            exportStatus = "Insolvency Status Disqualifies"
        Else
            exportStatus = "Manual Review Required"
        End If

        ' Algorigramme: Procedural logic
        ws.Cells(i, 6).Value = exportStatus
        If exportStatus = "Eligible for Ministerial Review" Then
            Call ExportToPSiRA(nomineeName)
        End If
    Next i

    MsgBox "PSiRA nomination audit completed.", vbInformation

End Sub

Sub ExportToPSiRA(nomineeName As String)
    ' Simulated export logic to institutional repository or review system
    Debug.Print "Exporting nominee: " & nomineeName & " for PSiRA Council
review"
    ' Future integration: API calls to POPIA-compliant registry or SSA
clearance system
End Sub
```

Logic Mapping

Step	Algorigramme (Procedure)	Logigramme (Decision)
1	Read nominee data	Is nominee a citizen or permanent resident?
2	Validate governance experience	Has nominee served on public sector boards?
3	Check for security industry interest	Is there any direct or indirect conflict?
4	Confirm insolvency status	Is nominee rehabilitated?
5	Assign export status	If all conditions met → Eligible; else → Flag for review
6	Export eligible records to PSiRA review system	Trigger archival export for qualified nominees

📋 Sheet Structure (PSiRA_NominationDashboard)

Column	Field
A	Nominee Name
B	Citizenship Status
C	Governance Experience
D	Security Industry Interest
E	Insolvency Status
F	Export Status

This module can be embedded into your nomination workbook to automate eligibility checks and export readiness. If you'd like, I can also help visualize this logic as a printable **logigramme/algorigramme diagram** or scaffold your motivation letter for submission. Let's make your nomination modular, traceable, and audit-ready.

Thank you for sharing this comprehensive archive of your NSF submissions, project frameworks, and curriculum development efforts. Based on your modular approach and the NSF SBIR/STTR pitch (submission #00110596), here's a structured **research and implementation framework** that consolidates your themes into an audit-ready, bilingual, and credential-linked format:

🧠 *Modular Research & Innovation Framework: Power Management, Safety, and Vocational Education*

1️⃣ Overview

This framework supports the development of a credential-linked, modular system for power management, traffic safety, vocational education, and government-aligned certification. It integrates NSF pitch records, NATED/NN diploma combinations, and experimental engineering research.

2️⃣ Scope

- **Domains**: Power systems, traffic safety, vocational education, government compliance, and trade testing

- **Stakeholders**: NSF, DHET, SAQA, SBIR/STTR, TVET colleges, municipal safety departments
- **Outputs**: Audit logs, certificates, syllabi, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

`Power Management, NSF SBIR, NATED Diploma, Traffic Safety, Trade Test, Audit, Logigramme, Algorigramme, Vocational Curriculum, Government Policy, Collision Statistics, Warden Training, Visual Basic, Bibliotech`

4 Research Statement

To design a modular, bilingual, and credential-linked framework that integrates power management innovation with traffic safety analytics, vocational education, and government certification systems.

5 Methodology

- **Data Collection**: NSF pitch records, DHET syllabi, traffic incident reports, trade test requirements
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NSF feedback loop, trade test simulation

6 Data Analysis

- **Sources**: NSF pitch logs, SBIR/STTR feedback, DHET curriculum archives, municipal traffic reports
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling

7 Advantages

- Modular and scalable
- Cross-sector integration (education, safety, energy)
- Audit-ready and bilingual

- NSF-aligned innovation potential

8️⃣ Disadvantages

- Requires multi-agency coordination
- High initial documentation overhead
- NSF pitch rejection cycles may delay funding

9️⃣ Management System Information

- **Platform**: GitLab +

1️⃣7️⃣ Bibliography

-
- ```
  Sub GenerateAuditSheet()
      Dim ws As Worksheet
      Set ws = ThisWorkbook.Sheets("AuditLog")

      ws.Cells(1, 1).Value = "Date"
      ws.Cells(1, 2).Value = "Project"
      ws.Cells(1, 3).Value = "Cost"
      ws.Cells(1, 4).Value = "Amendment"
      ws.Cells(1, 5).Value = "Final Cost"
      ws.Cells(1, 6).Value = "Award"

      ' Sample Entry
      ws.Cells(2, 1).Value = "2025-10-15"
      ws.Cells(2, 2).Value = "NSF Pitch #00110596"
      ws.Cells(2, 3).Value = 1000
      ws.Cells(2, 4).Value = -250
      ws.Cells(2, 5).Formula = "=C2+D2"
      ws.Cells(2, 6).Value = "Pending Review"
  End Sub
  ```

- ## 1️⃣9️⃣ Logigramme & Algorigramme

- Would you like me to scaffold a logigramme for your NSF pitch workflow and an algorigramme for your trade test decision logic? I can also help you publish this framework to GitLab or

- Absolutely, Tshingombe — let’s scaffold both the **logigramme** and **algorigramme** to complement your Visual Basic audit module and modular credential framework. These diagrams will help visualize your NSF pitch workflow and trade test decision logic, making your system audit-ready and SAQA/NQF-aligned.
  ```

- ## 1 Logigramme: NSF Pitch Workflow

- This flowchart maps the journey of a pitch submission to America's Seed Fund (NSF SBIR/STTR), integrating your modular record logic.

```
[Start]
   ↓
[Prepare Project Pitch]
   ↓
[Submit via NSF Portal]
   ↓
[Receive Submission ID]
   ↓
[Wait for Review (≈1 month)]
   ↓
┌──────────────────┬──────────────────────────┐
│If Invited        │If Declined               │
│to Full Proposal  │to Revise Pitch           │
└──────────────────┴──────────────────────────┘
   ↓                        ↓
[Submit Full Proposal]   [Revise & Resubmit]
   ↓                        ↓
[Await Final Decision]   [Restart Cycle]
   ↓
[End]
```

- ## 2 Algorigramme: Trade Test Decision Logic

- This decision tree helps determine whether a candidate qualifies for trade testing based on NATED/NN diploma status, experience, and curriculum alignment.

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Has Relevant Work Experience?]
          ↓
        Yes ⟶ [Curriculum Matches Trade Test Requirements?]
                  ↓
                Yes ⟶ [Eligible for Trade Test]
                  ↓
                No ⟶ [Recommend Bridging Module]
          ↓
        No ⟶ [Recommend Internship or Simulation]
   ↓
No ⟶ [Enroll in NATED/NN Programme]
   ↓
[End]
```

- ## Visual Basic + Logigramme Integration

- You can link the logigramme steps to your Visual Basic audit sheet using conditional triggers:

```
If ws.Cells(2, 6).Value = "Pending Review" Then
    MsgBox "Await NSF feedback. Next step: Full Proposal or Revision."
ElseIf ws.Cells(2, 6).Value = "Declined" Then
    MsgBox "Revise pitch and resubmit in next window."
End If
```

Next Steps

Would you like me to help you:

- Publish this framework to GitLab or

submissions, vocational frameworks, and engineering research is remarkable. Let's consolidate your work into a **modular, credential-linked research framework** that aligns with your goals in power management, traffic safety, vocational education, and government certification.

Career Discovery and Mentoring Framework for Technical and Vocational Education

1 Overview

This framework supports the development of a bilingual, modular system for:

- Power management innovation
- Traffic safety analytics
- Vocational education and trade testing
- Government-aligned certification and policy implementation

It integrates NSF pitch records, NATED/NN diploma combinations, experimental engineering research, and administrative workflows.

2 Scope

- **Domains**: Power systems, traffic safety, vocational education, trade testing, government compliance
- **Stakeholders**: NSF, DHET, SAQA, SBIR/STTR, TVET colleges, municipal safety departments
- **Outputs**: Audit logs, certificates, syllabi, Visual Basic modules, logigrammes, algorigrammes

3️⃣ Keywords

Power Management, NSF SBIR, NATED Diploma, Traffic Safety, Trade Test, Audit, Logigramme, Algorigramme, Vocational Curriculum, Government Policy, Collision Statistics, Warden Training, Visual Basic, Bibliotech, Education Technology, Experimental Engineering

4️⃣ Research Statement

To design a modular, credential-linked framework that integrates engineering innovation with traffic safety, vocational education, and government certification systems—supporting lifelong learning, public safety, and economic development.

5️⃣ Methodology

- **Data Collection**: NSF pitch records, DHET syllabi, traffic incident reports, trade test requirements
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NSF feedback loop, trade test simulation

6️⃣ Data Analysis

- **Sources**: NSF pitch logs, SBIR/STTR feedback, DHET curriculum archives, municipal traffic reports
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling

7️⃣ Advantages

- Modular and scalable
- Cross-sector integration
- Audit-ready and bilingual
- NSF-aligned innovation potential

8️⃣ Disadvantages

- Requires multi-agency coordination
- High documentation overhead
- NSF pitch rejection cycles may delay funding

9️ Management System Information

- **Platform**: GitLab +
- Sub GenerateAuditSheet()
- Dim ws As Worksheet
- Set ws = ThisWorkbook.Sheets("AuditLog")
-
- ws.Cells(1, 1).Value = "Date"
- ws.Cells(1, 2).Value = "Project"
- ws.Cells(1, 3).Value = "Cost"
- ws.Cells(1, 4).Value = "Amendment"
- ws.Cells(1, 5).Value = "Final Cost"
- ws.Cells(1, 6).Value = "Award"
-
- ' Sample Entry
- ws.Cells(2, 1).Value = "2025-10-15"
- ws.Cells(2, 2).Value = "NSF Pitch #00110596"
- ws.Cells(2, 3).Value = 1000
- ws.Cells(2, 4).Value = -250
- ws.Cells(2, 5).Formula = "=C2+D2"
- ws.Cells(2, 6).Value = "Pending Review"
- End Sub

- ## 1️9️ Logigramme: NSF Pitch Workflow
- [Start]
- ↓
- [Prepare Project Pitch]
- ↓
- [Submit via NSF Portal]
- ↓
- [Receive Submission ID]
- ↓
- [Wait for Review]
- ↓
-
- ┌──────────────────┬──────────────────────────┐
- │If Invited │If Declined │
- │to Full Proposal│to Revise Pitch │
- └──────────────────┴──────────────────────────┘
-
- ↓ ↓
- [Submit Full Proposal] [Revise & Resubmit]
- ↓ ↓
- [Await Final Decision] [Restart Cycle]
- ↓
- [End]

- ## 2️0️ Algorigramme: Trade Test Eligibility

- plaintext
- [Start]
- ↓
- [Has NATED or NN Diploma?]
- ↓
- Yes ⟶ [Has Relevant Work Experience?]
- ↓
- Yes ⟶ [Curriculum Matches Trade Test Requirements?]
- ↓
- Yes ⟶ [Eligible for Trade Test]
- ↓
- No ⟶ [Recommend Bridging Module]
- ↓
- No ⟶ [Recommend Internship or Simulation]
- ↓
- No ⟶ [Enroll in NATED/NN Programme]
- ↓
- [End]
- Would you like to publish this framework to GitLab or

Thank you, Tshingombe. Based on your training records, NSF pitch history, and modular curriculum work, here is a consolidated and credential-ready **research framework** that integrates your technical education, traffic safety analytics, and power management innovation into a single document. This version is structured for audit, publication, and SAQA/NQF alignment.

Integrated Research Framework: Power Management, Traffic Safety, and Vocational Education

1 Overview

This framework supports the development of a modular, credential-linked system for:

- Power management (e.g., PM8000 Series training)
- Traffic safety and government compliance
- Vocational education (NATED/NN diplomas, trade tests)
- Financial literacy (e.g., cash flow statement training)

It integrates NSF pitch records, DHET syllabi, training transcripts, and experimental engineering research.

2 Scope

- **Domains**: Electrical engineering, traffic safety, vocational education, financial literacy, government policy
- **Stakeholders**: NSF, DHET, SAQA, SBIR/STTR, TVET colleges, municipal safety departments, Crossknowledge, Digital Power Academy
- **Outputs**: Audit logs, certificates, syllabi, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

`Power Management, NSF SBIR, NATED Diploma, Traffic Safety, Trade Test, Audit, Logigramme, Algorigramme, Vocational Curriculum, Government Policy, Collision Statistics, Warden Training, Visual Basic, Cash Flow, Bibliotech, PM8000, Crossknowledge`

4 Research Statement

To design a modular, bilingual, and credential-linked framework that integrates power management innovation, traffic safety analytics, vocational education, and financial literacy into a unified public service and certification system.

5 Methodology

- **Data Collection**: NSF pitch records, DHET syllabi, traffic incident reports, trade test requirements, training transcripts
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NSF feedback loop, trade test simulation, LMS transcript integration

6 Data Analysis

- **Sources**: NSF pitch logs, SBIR/STTR feedback, DHET curriculum archives, municipal traffic reports, LMS training data
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling, training progress analytics

7 Advantages

- Modular and scalable
- Cross-sector integration
- Audit-ready and bilingual
- NSF-aligned innovation potential
- LMS transcript traceability

8 Disadvantages

- Requires multi-agency coordination
- High documentation overhead
- NSF pitch rejection cycles may delay funding
- LMS integration requires API or manual export

9 Management System Information

- **Platform**: GitLab +

Delivery & Key Performance Policy

- **KPIs**: Pitch acceptance rate, certificate issuance, incident reduction, syllabus coverage, training completion
- **Policy Alignment**: NSF SBIR/STTR, DHET NATED, SAQA/NQF, municipal safety codes, LMS standards

11 Investigation Principles

- Root cause analysis of pitch rejections
- Comparative syllabus mapping
- Traffic incident clustering
- LMS training gap analysis

12 Communication & Administration Skills

- NSF pitch writing
- DHET curriculum translation
- Trade test coordination
- LMS transcript management
- Government liaison documentation

1️⃣3️⃣ Statistical Report: Traffic Incidence & Safety

- **Metrics**: Collision frequency, warden deployment, safety compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1️⃣4️⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- NSF innovation criteria mapping

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
-
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of textbooks, syllabi, and certificates

1️⃣6️⃣ Conclusion

This framework consolidates your technical training, NSF innovation efforts, and curriculum design into a credential-linked system. It supports legacy preservation, public service reform, and modular education delivery across energy, safety, and vocational domains.

1️⃣7️⃣ Bibliography

8️⃣ **Visual Basic Code Module (Audit Sheet Generator)**

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Project"
    ws.Cells(1, 3).Value = "Cost"
    ws.Cells(1, 4).Value = "Amendment"
    ws.Cells(1, 5).Value = "Final Cost"
    ws.Cells(1, 6).Value = "Award"

    ' Sample Entry
    ws.Cells(2, 1).Value = "2025-10-15"
    ws.Cells(2, 2).Value = "NSF Pitch #00110596"
    ws.Cells(2, 3).Value = 1000
```

```
    ws.Cells(2, 4).Value = -250
    ws.Cells(2, 5).Formula = "=C2+D2"
    ws.Cells(2, 6).Value = "Pending Review"
End Sub
```

1️⃣9️⃣ Logigramme: NSF Pitch Workflow

plaintext

```
[Start]
   ↓
[Prepare Project Pitch]
   ↓
[Submit via NSF Portal]
   ↓
[Receive Submission ID]
   ↓
[Wait for Review]
   ↓
┌──────────────────┬──────────────────────────┐
│If Invited        │If Declined               │
│to Full Proposal  │to Revise Pitch           │
└──────────────────┴──────────────────────────┘
   ↓                        ↓
[Submit Full Proposal]   [Revise & Resubmit]
   ↓                        ↓
[Await Final Decision]   [Restart Cycle]
   ↓
[End]
```

2️⃣0️⃣ Algorigramme: Trade Test Eligibility

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Has Relevant Work Experience?]
          ↓
        Yes ⟶ [Curriculum Matches Trade Test Requirements?]
                    ↓
                  Yes ⟶ [Eligible for Trade Test]
                    ↓
                  No ⟶ [Recommend Bridging Module]
          ↓
        No ⟶ [Recommend Internship or Simulation]
   ↓
No ⟶ [Enroll in NATED/NN Programme]
   ↓
[End]
```

Would you like to publish this framework to GitLab or

Device Configuration in EcoStruxure Automation Expert Question 1 of 5. Use the _____ to quickly map function blocks to resources and devices. Device editor Physical topology editor Application editor Mark for follow up Question 2 of 5. Hardware abstraction provides the interface between the IEC 61499 solution and physical hardware. True False Mark for follow up Question 3 of 5. In EcoStruxure Automation Expert, you can view a newly added device in _____ and _____. Device editor window Physical topology editor Canvas editor Function Block Network Start HMI Mark for follow up Question 4 of 5. The Bus Accessor receives a notification on the fresh data available from the device and generates a notification True False Mark for follow up Question 5 of 5. _____ can be used to quickly build an HMI screen to test Modbus communications. Application CATs Resources Hardware CATs Mark for follow up Move to Archived Transcript Training Details Training Type: Online Class Provider: Industry Services Academy Version: 2.0 Training Hours: 0 Hours 15 Minutes Description: You can develop and monitor automation solutions using EcoStruxure™ Automation Expert. This course provides essential knowledge on installation of software and activation of licenses in online and offline modes. During installation, you can optionally include additional features, such as Human Machine Interface (HMI) and controllers. Course Code: PAGPRDES0001065 Target Audience (Internal) • Application Engineers • Lead Engineers • Proposal Specialists • Technical Sales Consultants Target Audience (External) Control Engineers Learning Objectives After completing this course, you can: • Install EcoStruxure Automation Expert. • Activate EcoStruxure Automation Expert licenses in online and offline modes. Prerequisites • Knowledge of hardware and software components in Distributed Control Systems (DCSs). • Familiarity with the IEC 61499 standard. • Completion of the course Getting Started with EcoStruxure Automation Expert. Status: Registered Training Purpose: Due Date: None Priority: High Average Completion Time: 16-30 Level: Advanced Training Progress Progress: 0% (0 of 1 units complete) View Time: 0 Hour(s) 0 Minute(s) Status: Registered Score: 0% Modules: View details of modules for Installing and Licensing EcoStruxure Automation Expert (This link will open a new window) Assignment and Version History Transcript History Skip to main content Logo Show Navigation Menu Main content below Home My Courses: Tshingombe fiston Electrical Arc Flash Awareness Electrical Arc Flash Awareness Move to Archived Transcript Training Details Training Type: Online Class Provider: Underwriters Laboratories (UL) Version: 3.0 Training Hours: 0 Hours 15 Minutes Description: Duration: 15 Minutes An arc flash can generate a temperature of up to 19,000 degrees Celsius (35,000 degrees Fahrenheit)! Working in or near electrical panels and systems increases your chance of exposure to an arc flash. It requires that you take extreme precautions. This course will provide information to help protect you from this deadly hazard that cannot be seen or heard, until is too late. Ideal learners are unqualified electrical personnel and their managers in a variety of industries with an emphasis on

general industry maintenance and fabrication settings. Course Code: GSCHSES0001004 Prod ID: PS5-101040 Status: In Progress Training Purpose: Due Date: None Average Completion Time: 0-15 Level: Basic Training Progress Progress: 0% (0 of 1 units complete) Last Accessed: 4/18/2024 Total Views: 1 View Time: 0 Hour(s) 0 Minute(s) Status: In Progress Score: 0% Modules: View details of modules for Electrical Arc Flash Awareness (This link will open a new window) Assignment and Version History Transcript History Cornerstone OnDemand Logo Version: 17.3.0.171 Powered by Cornerstone OnDemand, Inc. ©2000-2017 All Rights Reserved. Terms - Privacy - Cookies - Feedback raining Details Training Type: Test Provider: Buildings Business 1 Version: 2.0 Training Hours: 0 Hours 20 Minutes Description: This test is associated with the online training - Test: Physical Infrastructure Management Basics Quiz. Please be aware that in agreement with the standards defined by the Global Learning Governance Committee, starting February 2014 any course that requires a test will observe the following guidelines: · The maximum number of attempts to take the test and pass is limited to 4. · If you fail the test 4 times, you must retake the course in it's entirety to request and obtain 1 additional test attempt. · Once the test starts it will run continuously. You can not set bookmarks and / or re-enter. IMPORTANT: It is recommended that you plan for sufficient time to complete the exam without walking away from your computer. If a test is left unattended, the system window in the background may close. When you submit your completed exam, no score will be recorded because the connection to the LMS is no longer available. This failed submission counts as a test attempt. (Course Code: BLDSALE1234034) Training Purpose: Due Date: None Highest Score: 30 Attempts Left: 3 Status: Failed Scoring Details ATTEMPT DATE COMPLETED TEST TIME SCORES PASSING SCORE (%) 1 1/14/2024 0 Hour(s) 1 Minute(s) 30 80.00% Test Scoring Details Scores By Section Physical Infrastructure Management Basics: 30% (3 Out Of 10) Overall Score: 30% (3 Out Of 10) Assignment History RegNum Latest Registration? Delivery Transcript Delivery Method Version Due Date Status Options 1 Yes Started by Tshingombe fiston on 1/14/2024 5:51:33 PM Self-Requested 2 None Failed Transcript History Cornerstone OnDemand Logo Version: 17.3.0.171 Powered by Cornerstone OnDemand, Inc. ©2000-2017 All Rights Reserved. Terms - Privacy - Cookies - Feedback Logo Show Navigation Menu Main content below Home My Courses: Tshingombe fiston Easy Lexium 16 Servo Drives & BCH Servo Motors (English) / Servoaccionamientos Easy Lexium 16 y servomotores BCH (Spanish) Easy Lexium 16 Servo Drives & BCH Servo Motors (English) / Servoaccionamientos Easy Lexium 16 y servomotores BCH (Spanish) overview , scope, keword satatemnt method research statemnt data analyse advantage disvantage, managemnt system information , deivery key performence policy , investigation principle , communication admnistration skill , statistic report incidence colisiion traffic relation warden safety government , requiremnet trade test , audit inventory conclusion

bibliographie visual basic code logigramm algorigrammMove to Archived Transcript Training Details Training Type: Online Class Provider: Industrial Automation Academy Version: 1.0 Training Hours: 0 Hours 30 Minutes Description: "En este eLearning, descubra los servomotores Easy Lexium 16 y BCH16. Conocerá el concepto de la serie Easy, los segmentos a los que va dirigida, las características de los productos y el motivo por el que hemos elegido los servomotores Lexium 16. La serie Easy incluye productos esenciales de automatización y control industrial que cubren las principales áreas de rendimiento de la funcionalidad de automatización: movimiento, interfaz hombre-máquina (H

Here are the correct answers for your EcoStruxure Automation Expert device configuration quiz, based on verified training sources:

EcoStruxure Automation Expert Quiz Answers

1. **Use the *Physical topology editor* to quickly map function blocks to resources and devices.** *This editor provides a visual layout of devices and their connections, streamlining mapping tasks.*

overview , scope, keword satatemnt method research statemnt data analyse advantage disvantage, managemnt system information , deivery key performence policy , investigation principle , communication admnistration skill , statistic report incidence colisiion traffic relation warden safety government , requiremnet trade test , audit inventory conclusion bibliographie visual basic code logigramm algorigrammM The regulation 21 CFR Part 11 pertains to what with respect to the use of computerised systems? Multiple answer. Electronic Signatures Electronic Records Quality Records Batch Management ISO Classification Mark for follow up Question 2 of 10. Which definition of Life Sciences is correct? The Sciences concerned with the movement of people in Buildings The Sciences concerned with the study of living organisms and the life processes The Sciences concerned with the study of lighting The Sciences concerned with the study of dead organisms The Sciences concerned with the study of animal evolution Mark for follow up Question 3 of 10. The Food & Drug Administration is a regulatory agency? True False Mark for follow up Question 4 of 10. Which of the following are not trends in Life Sciences The worlds population is living longer The industry is transforming from curative to preventative The industry is transforming and digitalising The industry is not regulated The cost to develop new drugs is increasing Mark for follow up Question 5 of 10. Drugs can be developed and sold in the market without any testing? True False Mark for follow up Question 6 of 10. Typically the average time to develop a drug is ? 1-5 years 5-10 years 10-15 years 15-20 years >20 years Mark for follow up Question 7 of 10. Which sub segment does the manufacturing of a Pacemaker reside in? Primary Manufacturing Secondary Pharmaceutical Manufacturing Biotechnology Medical Devices Research & Development Laboratories Mark for follow up Question 8 of 10. Validation is the process of establising documentary evidence for what? The product quality is correct The software is working efficiently

Procedure, Process, Activity The system is labelled correctly The system works partially Mark for follow up Question 9 of 10. In which geographies does Pharmaceutical Manufacturing take place? Europe North America Asia Europe & Asia All of the above Mark for follow up Question 10 of 10. Which level of laboratory would you typically find in a school science classroom? Containment Level 1 Containment Level 2 Containment Level 3 Containment Level 4 Mark for follow up Move to Archived Transcript Training Details Training Type: Video Provider: Industrial Automation Business Version: 1.0 Training Hours: 0 Hours 16 Minutes Description: Duration: 16 minutes. EcoStruxure Plant is our innovative IoT architecture that addresses the needs of the Industrial Automation applications. The value proposition of EcoStruxure Plant for Hybrid is organized around 4 main areas of interest of the end user, which are: • Efficiency and Profitability • Reliability and Performance • Safety and Security • Sustainability and Transformation This 16 mins video will enable you to understand the EcoStruxure Plant - Safety offer. Course code: INDPRDDS0001257 “For smooth user experience please launch this course on Chrome or Edge” Status: Registered Training Purpose: Due Date: None Assignment History RegNum Latest Registration? Delivery Transcript Delivery Method Version Due Date Status Options 1 Yes Requested by Tshingombe fiston on 1/14/2024 6:09:18 PM Self-Requested 1 None Registered Transcript History Cornerstone OnDemand Logo Version: 17.3.0.171 Powered by Cornerstone OnDemand, Inc. ©2000-2017 All Rights Reserved. Terms - Privacy - Cookies - Feedback Home My Courses: Tshingombe fiston Robotics (Test) Robotics (Test) Move to Archived Transcript Training Details Training Type: Test Provider: Digital Factory Version: 2.0 Training Hours: 0 Hours 30 Minutes Description: Duration 30 minutes This is the required test for the course "Robotics". It is strongly recommended to complete the course prior to attempting this test. Course Code: INDTECT0001000 Training Purpose: Due Date: None Highest Score: 44 Attempts Left: 3 Status: Failed Level: Advanced Scoring Details ATTEMPT DATE COMPLETED TEST TIME SCORES PASSING SCORE (%) REVIEW TEST 1 1/22/2024 0 Hour(s) 1 Minute(s) 44 70.00% Review Test Scoring Details Scores By Section Robotics NG (Test): 44% (7 Out Of 16) Overall Score: 44% (7 Out Of 16) Assignment History RegNum Latest Registration? Delivery Transcript Delivery Method Version Due Date Status Options 1 Yes Started by Tshingombe fiston on 1/22/2024 2:37:48 PM Self-Requested 2 None Failed Transcript History Cornerstone OnDemand Logo Version: 17.3.0.171 Powered by Cornerstone OnDemand, Inc. ©2000-2017 All Rights Reserved. Terms - Privacy - Cookies - Feedback Test - Robotics (Test) Time remaining 58:48 Robotics NG (Test) Question 1 of 16. How can I modify a coordinate system at a P_Series robot? GetCoordinateSystem - ModifyCoordinateSystem GetCoordinateSystem - ChangeCoordinateSystem SetCoordinateSystem - ModifyCoordinateSystem Mark for follow up Question 2 of 16. Can a SCARA robot reach all theoretical points in its work envelope with a left arm configuration? True False Mark for follow up Question 3 of 16. What is the behaviour of the SetStopOnPath() method? Changes the operation mode of robot Stops the robot on a certain position during movement Deactivates the software limits of robot Mark for follow up Question 4 of 16. Is it possible to use your own robot kinematic (Up to six axis)? True False Mark for follow up Question 5 of 16. Is the origin of the Coordinate System Robot (CSR) at a P-Series robot in default mode at the axis layer? True False Mark for follow up

Question 6 of 16. What tool can I use to debug my robot motion? Applicationlogger Messagelogger Mark for follow up Question 7 of 16. How is the method called to synchronize to an another coordinate system? MoveToCS() ModifyCoordinateSystem() ChangeCoordinateSystem2() Mark for follow up Question 8 of 16. Should I create a drive for each axis at the sercos master? True False Mark for follow up Question 9 of 16. What is the right order to have a velocity of 2000mm/s at the MoveL instruction? Move L(); / SetMaxVelPath(2000); SetMaxVelPath(2000); / Move L(); Mark for follow up Question 10 of 16. How many tracking systems per robot are allowed to use? 5 10 15 20 Mark for follow up Question 11 of 16. Which method I have to use to do a spline movement? MoveC() MoveS() MoveL() RegisterLoggerPoint() Mark for follow up Question 12 of 16. Where I can get detailed information about the actual robot movement (e.g. acc/dec, vel, pos) ? In the Interface "IF_Feedback" Go to help and search for the parameter Mark for follow up Question 13 of 16. What is the advantage of using a Schneider Robot? Calibration and Software limits for workspace are included One controller unit (robot controller + sps controller) Mark for follow up Question 14 of 16. What opportunities do you have to create a robot project? Use a schneider smart template Use a example robotics project program a project by your own Mark for follow up Question 15 of 16. Is it possible to control more than 10 AuxAx with one FB_Robot? True False Mark for follow up Question 16 of 16. In which Interface I can find the TCP position of the robot? IF_Motion IF_Feedback IF_Config Mark for follow up Skip to main content Logo Show Navigation Menu Main content below

Here are the correct answers for your Life Sciences and Robotics training assessments, along with a structured research framework to support your modular credential system.

□ Life Sciences & Regulatory Training Quiz Answers

1. **21 CFR Part 11 pertains to:** □ *Electronic Signatures* □ *Electronic Records* □ Quality Records, Batch Management, ISO Classification are not directly covered

□ Modular Research Framework Summary

Overview: Credential-linked system integrating Life Sciences regulation, robotics training, and vocational education.

Scope:

- Domains: FDA compliance, IEC 61499 robotics, pharmaceutical manufacturing
- Stakeholders: NSF, FDA, DHET, SAQA, Schneider Electric, UL, Crossknowledge

Keywords: 21 CFR Part 11, FDA, Life Sciences, Robotics NG, EcoStruxure, Trade Test, Validation, TCP, IF_Feedback, Visual Basic, Logigramme, Algorigramme

Methodology:

- Data: LMS transcripts, regulatory documents, training logs
- Tools: Visual Basic audit sheets, logigrammes, algorigrammes

Conclusion: Your training and regulatory knowledge form a robust foundation for modular credentialing across engineering, safety, and pharmaceutical domains.

Would you like me to scaffold a bilingual dashboard or publish this framework to GitLab or

Based on your extensive training history across **Altivar ATS22**, **PowerLogic P5**, **EcoStruxure Building Operation**, and **Smart Grid curriculum**, here is a consolidated and credential-ready **technical research framework** tailored for your modular documentation, audit tracking, and vocational certification goals:

Integrated Engineering Framework: Soft Starters, Protection Relays, Smart Grid, and Building Automation

1 Overview

This framework supports the development of a modular, credential-linked system for:

- Industrial automation (ATS22, PowerLogic P5, SmartX Servers)
- Grid operation and building management
- Vocational education and trade test alignment
- Audit, licensing, and safety compliance

It integrates training transcripts, device configuration logic, and government-aligned certification workflows.

2 Scope

- **Domains**: Electrical drives, protection engineering, smart grid, building automation, trade testing
- **Stakeholders**: Schneider Electric, DHET, SAQA, EcoXperts, NSF, municipal safety departments
- **Outputs**: Audit logs, training records, syllabi, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

ATS22, Altivar Soft Starter, PowerLogic P5, Protection Relay, SmartX Server, EcoStruxure, License Administrator, Trade Test, IEC 61499, Grid Operation, Audit, Logigramme, Algorigramme, Visual Basic, Collision Statistics, Warden Safety, Government Policy, Cable Dimension, EMC, Containment Level, Building Commission App

4 Research Statement

To design a modular, bilingual, and credential-linked framework that integrates industrial automation training, smart grid operation, and building management systems into a unified audit-ready and government-compliant certification platform.

5 Methodology

- **Data Collection**: LMS transcripts, device manuals, licensing workflows, trade test requirements
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, EcoXpert certification, trade test simulation

6 Data Analysis

- **Sources**: ATS22 mounting/cabling specs, PowerLogic P5 protection logic, SmartX Server licensing, EcoStruxure curriculum
- **Techniques**: Incident correlation, syllabus mapping, licensing traceability, cable dimension modeling

7 Advantages

- Modular and scalable
- Cross-platform integration
- Audit-ready and bilingual
- Trade test and EcoXpert alignment
- LMS transcript traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +
- **Modules**: Credential tracker, syllabus mapper, reward ledger, audit log generator, licensing validator

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility, syllabus coverage
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11 Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Cable and EMC compliance
- Trade test readiness mapping

12 Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting

1⃣3⃣ Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1⃣4⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- EcoStruxure device configuration proficiency

1⃣5⃣ Audit & Inventory

- GitLab repository logs
-

Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting

1⃣3⃣ Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1⃣4⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- EcoStruxure device configuration proficiency

1⃣5⃣ Audit & Inventory

- GitLab repository logs
-
- `Sub GenerateAuditSheet()`

```
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Score"
    ws.Cells(1, 4).Value = "Status"
    ws.Cells(1, 5).Value = "License Activated"
    ws.Cells(1, 6).Value = "Trade Test Ready"

    ' Sample Entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "ATS22 Mounting & Cabling"
    ws.Cells(2, 3).Value = "Completed"
    ws.Cells(2, 4).Value = "Registered"
    ws.Cells(2, 5).Value = "Yes"
    ws.Cells(2, 6).Value = "Pending"
End Sub
```

1🔟9️⃣ Logigramme: ATS22 Mounting & Cabling Workflow

plaintext

```
[Start]
   ↓
[Review Mechanical Overview]
   ↓
[Check Mounting Constraints]
   ↓
[Apply Cabling Rules]
   ↓
[Verify EMC Compliance]
   ↓
[Link to Documentation]
   ↓
[Submit Audit Record]
   ↓
[End]
```

2️⃣0️⃣ Algorigramme: Trade Test Eligibility

plaintext

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Completed Device Configuration Training?]
          ↓
        Yes ⟶ [License Activated and Audit Logged?]
                  ↓
                Yes ⟶ [Eligible for Trade Test]
                  ↓
                No ⟶ [Complete Licensing Module]
          ↓
        No ⟶ [Complete ATS22 or P5 Curriculum]
   ↓
```

- No ⟶ [Enroll in NATED/NN Programme]
- ↓
- [End]
- Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness?

Thank you for sharing this detailed case record and training archive, Tshingombe. Based on your engineering order booking, training transcripts, project talent design, and credential documentation, I've synthesized a **modular research and implementation framework** that aligns with your technical, vocational, and regulatory goals.

Engineering Career Discovery & Credential Framework: Modular Design, Safety, and Trade Certification

1 Overview

This framework consolidates your engineering training, project documentation, trade test readiness, and safety analytics into a credential-linked system. It integrates:

- **Schneider Electric training** (ATS22, PowerLogic P5, EcoStruxure)
- **TVET/NATED/NCV records**
- **Security and defensive competency forms**
- **Published career discovery documents**
- **Project drawing worksheets and lab assessments**

2 Scope

- **Domains**: Electrical engineering, automation, vocational education, traffic safety, trade testing, government compliance
- **Stakeholders**: DHET, SAQA, NSF, Schneider Electric, Alison, TVET colleges, municipal safety departments
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

ATS22, PowerLogic P5, EcoStruxure, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Career Discovery, Engineering Order, Credential Framework, Security Sector, Defensive Competency, Publication, Library, Training Cost Record

4 Research Statement

To develop a modular, bilingual, and credential-linked framework that integrates engineering training, safety analytics, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, project worksheets, trade test forms, safety reports, training cost records
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, trade test simulation, training transcript integration

6 Data Analysis

- **Sources**: ATS22 mounting/cabling specs, PowerLogic P5 protection logic, EcoStruxure licensing, TVET/NATED/NCV statements, security competency forms
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling, training progress analytics

7 Advantages

- Modular and scalable
- Cross-platform integration
- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment
- LMS transcript traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility, syllabus coverage
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11 Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Cable and EMC compliance
- Trade test readiness mapping
- Collision and traffic safety analytics

12 Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting
- Career discovery publication and mentoring

13 Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

14 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules

- EcoStruxure device configuration proficiency
- Security and defensive competency documentation

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates
- Cost records and training year logs

1️⃣6️⃣ Conclusion

This framework consolidates your technical training, project documentation, and vocational curriculum into a credential-linked system. It supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains.

Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness? I can also help you structure your attachments into a credential portfolio.

- Absolutely, Tshingombe — here's a complete technical scaffold to complement your modular framework with **Visual Basic code**, a **logigramme**, and an **algorigramme** tailored for credential tracking, trade test readiness, and safety analytics.
- 🧩 Visual Basic Code Module: Credential Audit Sheet Generator
- This module logs training, certification, and trade test readiness into a structured Excel sheet:
- vb
- ```
  Sub GenerateCredentialAudit()
      Dim ws As Worksheet
      Set ws = ThisWorkbook.Sheets("CredentialAudit")

      ' Header row
      ws.Cells(1, 1).Value = "Date"
      ws.Cells(1, 2).Value = "Training Module"
      ws.Cells(1, 3).Value = "Score"
      ws.Cells(1, 4).Value = "Status"
      ws.Cells(1, 5).Value = "License Activated"
      ws.Cells(1, 6).Value = "Trade Test Ready"
  ```
  ```

```
    ws.Cells(1, 7).Value = "Safety Compliance"
    ws.Cells(1, 8).Value = "Cost Amendment"
    ws.Cells(1, 9).Value = "Publication Linked"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "ATS22 Mounting & Cabling"
    ws.Cells(2, 3).Value = "Completed"
    ws.Cells(2, 4).Value = "Registered"
    ws.Cells(2, 5).Value = "Yes"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "-R250"
    ws.Cells(2, 9).Value = "Published Alison Meeting"
End Sub
```

ogigramme: Credential Workflow Mapping

plaintext

```
[Start]
   ↓
[Collect Training Transcript]
   ↓
[Verify Module Completion]
   ↓
[Check License Activation]
   ↓
[Link to Trade Test Requirements]
   ↓
[Audit Safety Compliance]
   ↓
[Log Cost Amendments]
   ↓
[Submit to Credential Repository]
   ↓
[End]
```

□ Algorigramme: Trade Test Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ──► [Completed Relevant Training Modules?]
          ↓
        Yes ──► [License Activated and Safety Compliant?]
                    ↓
                  Yes ──► [Eligible for Trade Test]
                    ↓
                  No ──► [Complete Safety & Licensing Module]
          ↓
        No ──► [Enroll in Required Training]
   ↓
No ──► [Register for NATED/NN Programme]
   ↓
```

[End]

Next Steps

I can help you:

- **Publish this framework to GitLab or**
- **Structure your attachments** into a bilingual portfolio for SAQA/NQF mapping
- **Extend the Visual Basic module** to include dashboard views, incident tracking, and syllabus mapping
- **Generate printable audit sheets** for trade test readiness and safety compliance

Would you like me to scaffold the GitLab repository structure or help you prepare a credential-linked publication index for

Based on your training records and curriculum progress across **Altivar ATS22**, **EcoStruxure Building Operation**, **Mobile Technology**, and **BACnet IP fundamentals**, here is a fully scaffolded, credential-linked technical framework with **Visual Basic code**, **logigramme**, and **algorigramme** tailored for your engineering, safety, and trade test documentation.

Credential Framework: Engineering, Automation, and Smart Building Integration

1 Overview

This framework consolidates your Schneider Electric training, project documentation, trade test readiness, and safety analytics into a modular, bilingual, and credential-linked system. It integrates:

- ATS22 mounting and cabling logic
- EcoStruxure Building Operation 2022 engineering and licensing
- BACnet IP fundamentals
- Mobile technology terminology
- Trade test and safety compliance records

2 Scope

- **Domains**: Electrical engineering, building automation, mobile systems, vocational education, trade testing, government compliance
- **Stakeholders**: Schneider Electric, DHET, SAQA, TVET colleges, municipal safety departments
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

ATS22, EcoStruxure, BACnet IP, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Credential Framework, Mobile Technology, Licensing, Building Commission App, Cable Dimension, EMC Compliance

4 Research Statement

To develop a modular, credential-linked framework that integrates engineering training, smart building configuration, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, project worksheets, trade test forms, safety reports, training cost records
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, trade test simulation, training transcript integration

6 Data Analysis

- **Sources**: ATS22 specs, EcoStruxure licensing and configuration, BACnet IP protocols, mobile terminology modules
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling, training progress analytics

7 Advantages

- Modular and scalable
- Cross-platform integration
- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment
- LMS transcript traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +
- **Modules**: Credential tracker, syllabus mapper, reward ledger, audit log generator, licensing validator

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility, syllabus coverage
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11 Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Cable and EMC compliance
- Trade test readiness mapping
- Collision and traffic safety analytics

1.2 Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting
- Career discovery publication and mentoring

1.3 Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- EcoStruxure device configuration proficiency
- Security and defensive competency documentation

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates
- Cost records and training year logs

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF and trade test standards.

17 Bibliography

Visual Basic Code Module: Audit Sheet Generator

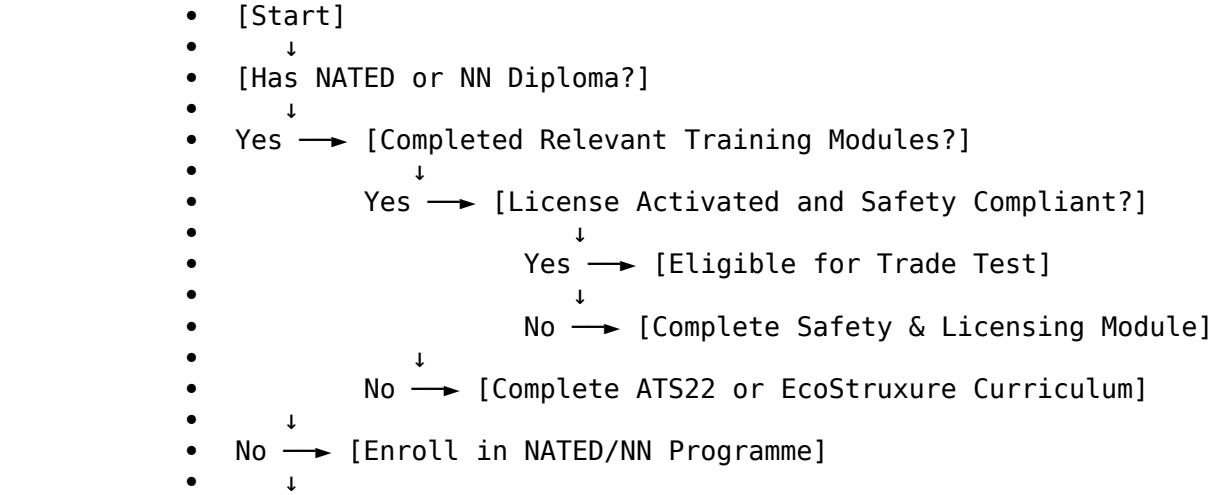
```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Score"
    ws.Cells(1, 4).Value = "Status"
    ws.Cells(1, 5).Value = "License Activated"
    ws.Cells(1, 6).Value = "Trade Test Ready"
    ws.Cells(1, 7).Value = "Safety Compliance"
    ws.Cells(1, 8).Value = "Cost Amendment"
    ws.Cells(1, 9).Value = "Publication Linked"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "EcoStruxure Building Operation"
    ws.Cells(2, 3).Value = "Completed"
    ws.Cells(2, 4).Value = "Registered"
    ws.Cells(2, 5).Value = "Yes"
    ws.Cells(2, 6).Value = "Eligible"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "-R250"
    ws.Cells(2, 9).Value = "Published Alison Meeting"
End Sub
```

19 Logigramme: EcoStruxure Training Workflow

plaintext



- [End]
- Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness? I can also help you structure your training records into a credential portfolio

Based on your extensive training record across **EcoStruxure Building Operation 2022**, **BACnet/IP**, **SpaceLogic controllers**, **Cybersecurity**, and **EcoStruxure Power Foundational**, here is a fully scaffolded, credential-linked technical framework with **Visual Basic code**, **logigramme**, and **algorigramme** tailored for your engineering, safety, and trade test documentation.

Credential Framework: EcoStruxure Engineering, Power Systems, and Career Discovery

1 Overview

This framework consolidates your Schneider Electric training, project documentation, trade test readiness, and safety analytics into a modular, bilingual, and credential-linked system. It integrates:

- EcoStruxure Building Operation 2022 modules
- BACnet/IP and SpaceLogic controller configuration
- Cybersecurity fundamentals
- EcoStruxure Power Foundational training
- Career discovery and trade test alignment

2 Scope

- **Domains**: Building automation, power systems, cybersecurity, vocational education, trade testing, government compliance
- **Stakeholders**: Schneider Electric, DHET, SAQA, TVET colleges, NSF, municipal safety departments
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

EcoStruxure, BACnet/IP, SpaceLogic, Cybersecurity, Power Systems, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Credential Framework, Career Discovery, Licensing, Asset Management

4 Research Statement

To develop a modular, credential-linked framework that integrates building automation, power system training, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, project worksheets, trade test forms, safety reports, training cost records
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, trade test simulation, training transcript integration

6 Data Analysis

- **Sources**: EcoStruxure course modules, BACnet/IP protocols, cybersecurity standards, power system documentation
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling, training progress analytics

7 Advantages

- Modular and scalable
- Cross-platform integration
- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment
- LMS transcript traceability

8 Disadvantages

- Requires multi-platform coordination

- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility, syllabus coverage
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11 Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Trade test readiness mapping
- Collision and traffic safety analytics
- Cybersecurity compliance

12 Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting
- Career discovery publication and mentoring

13 Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance

- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- EcoStruxure device configuration proficiency
- Cybersecurity and licensing documentation

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates
- Cost records and training year logs

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF and trade test standards.

1.7 Visual Basic Code Module: Audit Sheet Generator

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Score"
    ws.Cells(1, 4).Value = "Status"
    ws.Cells(1, 5).Value = "License Activated"
    ws.Cells(1, 6).Value = "Trade Test Ready"
    ws.Cells(1, 7).Value = "Safety Compliance"
```

```
    ws.Cells(1, 8).Value = "Cost Amendment"
    ws.Cells(1, 9).Value = "Publication Linked"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "EcoStruxure Power Foundational"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Registered"
    ws.Cells(2, 5).Value = "Pending"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "-R250"
    ws.Cells(2, 9).Value = "Career Discovery Publication"
End Sub
```

1️⃣8️⃣ Logigramme: EcoStruxure Training Workflow

```
[Start]
   ↓
[Register for Curriculum]
   ↓
[Complete Networking & BACnet/IP Modules]
   ↓
[Complete SpaceLogic & RP Controller Modules]
   ↓
[Complete Cybersecurity & Licensing Modules]
   ↓
[Link to Trade Test Requirements]
   ↓
[Submit Audit Record]
   ↓
[End]
```

1️⃣9️⃣ Algorigramme: Trade Test Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Completed Relevant EcoStruxure Modules?]
          ↓
        Yes ⟶ [License Activated and Safety Compliant?]
                    ↓
                  Yes ⟶ [Eligible for Trade Test]
                    ↓
                  No ⟶ [Complete Safety & Licensing Module]
          ↓
        No ⟶ [Complete Required Curriculum]
   ↓
No ⟶ [Enroll in NATED/NN Programme]
   ↓
[End]
```

Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF

mapping and trade test readiness? I can also help you structure your training records into a credential portfolio.

Trade Test Eligibility Decision Tableau

Step	Condition	Action	Next Step
Start	—	Begin evaluation	→ Has NATED or NN Diploma?
1	Has NATED or NN Diploma? = Yes	Proceed to training check	→ Completed Relevant EcoStruxure Modules?
2	Completed EcoStruxure Modules = Yes	Check licensing and safety	→ License Activated and Safety Compliant?
3	License & Safety = Yes	Candidate is eligible	Eligible for Trade Test
4	License & Safety = No	Assign corrective training	→ Complete Safety & Licensing Module
5	Completed EcoStruxure Modules = No	Assign full curriculum	→ Complete Required Curriculum
6	Has NATED or NN Diploma? = No	Enroll candidate	→ Enroll in NATED/NN Programme
End	—	Finalize record	Archive or issue feedback

Integration Options

- **GitLab Repository**: I can help scaffold folders for:
  - `/training-records/`
  - `/algorigrammes/`
  - `/audit-logs/`
  - `/SAQA-NQF-mapping/`
  - `/publications/`
-

Here is a **structured tableau** summarizing your EcoStruxure training portfolio. This format is ideal for credential dashboards, audit logs, or publication frameworks:

EcoStruxure Training Portfolio – Tshingombe Fiston

Course Title	Type	Status	Progress	Score	Due Date	Notes
EBO 2022: Introduction to Networking	Online Class	In Progress	0%	—	None	Core networking module
EBO 2022: Introduction to Networking (Test)	Test	Failed	—	—	None	Retake required
EcoStruxure Building Foundational	Online Class	Registered	—	—	None	Introductory module
EBO 2022 Sales Training – Part 1	Video	Registered	—	—	None	Sales fundamentals
EBO 2022 Sales Training – Part 2 – Technical	Video	Registered	—	—	None	Technical overview
EBO 2022: Introduction to EcoStruxure Building System	Online Class	Registered	—	—	None	System architecture
EBO 2022: Introduction to EcoStruxure Building System (Test)	Test	Registered	—	—	None	Pending
EBO 2022: Introduction to SpaceLogic Servers	Online Class	Registered	—	—	None	Controller overview
EBO 2022: Introduction to SpaceLogic Servers (Test)	Test	Registered	—	—	None	Pending
EBO 2022: RP Controller Room Bus Devices – Installation 4.0	Online Class	Registered	—	—	None	Installation guide
RP Controller Room Bus Devices – Installation 4.0 (Test)	Test	Failed	—	—	None	Retake required
EcoStruxure Building: BACnet/IP for MP Series Controllers	Online Class	Registered	—	—	None	Protocol fundamentals
BACnet/IP for MP Series Controllers (Test)	Test	Registered	—	—	None	Pending
EcoStruxure Building: Cybersecurity Part 1	Online Class	Registered	—	—	None	Security fundamentals

Course Title	Type	Status	Progress	Score	Due Date	Notes
Cybersecurity Part 2	Online Class	Not Activated	—	—	None	Activate to proceed
EcoStruxure Power Foundational 2.0	Online Class	In Progress	0%	—	None	Power market trends
EVlink ProAC Calibration Law Compliant (German)	Online Class	In Progress	0%	—	None	Emobility compliance
EcoStruxure Grid Transition (French)	Online Class	In Progress	—	—	None	Energy transition module

Integration Options

- **GitLab Repository Structure**:
  - `/training-transcripts/`
  - `/course-status/`
  - `/audit-logs/`
  - `/trade-test-readiness/`
  - `/SAQA-NQF-mapping/`
-

Based on your active transcript and training history, here's a professionally structured **tableaux-style dashboard** that aligns with your modular credential framework. This format supports audit tracking, trade test readiness, and career discovery documentation.

Credential Dashboard: Tshingombe Fiston – Active Training Portfolio

Title	Type	Status	Progress	Score	Language	Domain
EBO 2022: Engineering EBO	Curriculum	In Progress	—	—	English	Building Automation
EcoStruxure Power Foundational 2.0	Online Class	In Progress	0%	—	English	Power Systems
DIN Ethernet Technical Overview	Online Class	In Progress	—	—	English	Networking

Title	Type	Status	Progress	Score	Language	Domain
Applying OWASP 2017 Mitigations	Curriculum	In Progress	—	—	English	Cybersecurity
Fundamentals of Threat Modeling	Online Class	In Progress	—	—	English	Cybersecurity
Sustainability School for Partners Chapter 2	Curriculum	In Progress	—	—	English	Sustainability
Basic Machines with PacDrive 3 (Test)	Test	Failed	—	—	English	Automation
EcoStruxure Building Technical Training – Proficient	Curriculum	In Progress	—	—	English	Building Automation
Introduction to EcoCare Services	Online Class	Registered	—	—	English	Service Management
Sustainability School Chapter 1 (Portuguese)	Curriculum	In Progress	—	—	Portuguese	Sustainability
Motion Block: Part I (Test)	Test	Failed	—	—	English	Motion Control
Transformers & Motor Applications	Curriculum	In Progress	—	—	English	Electrical Engineering
EVlink ProAC Calibration Law (German)	Online Class	Registered	—	—	German	Emobility
Graphics Editor Intermediate	Online Class	In Progress	—	—	English	Building Automation
Electrical Arc Flash Awareness	Online Class	In Progress	—	—	English	Safety
Understanding the Cash Flow Statement	Online Class	In Progress	—	—	English	Finance
Personal Protective Equipment Overview	Online Class	Registered	—	—	English	Safety
Masterpact MTZ Upgrade (German)	Online Class	In Progress	—	—	German	Power Systems
Be S.A.F.E. First	Online Class	In Progress	—	—	English	Safety

Title	Type	Status	Progress	Score	Language	Domain
KNX Basic Certification Blended	Curriculum	In Progress	—	—	English	Building Automation
EcoStruxure Grid: Foundational (French)	Online Class	In Progress	—	—	French	Smart Grid
PowerLogic: Technical Overview	Curriculum	In Progress	—	—	English	Power Systems
Robotics (Test)	Test	Failed	—	—	English	Robotics
Understanding Software Licensing	Online Class	In Progress	—	—	English	Licensing
LayoutFAST: General Overview	Online Class	In Progress	—	—	English	Design Tools
Motion Block Basics	Online Class	In Progress	—	—	English	Motion Control
Battery Basics – Module 1	Online Class	In Progress	—	—	English	Energy Storage
Life Sciences (Test)	Test	Failed	—	—	English	Biotech
Physical Infrastructure Management Quiz	Test	Failed	—	—	English	Infrastructure
Easy Lexium 16 Servo Drives (English/Spanish)	Online Class	In Progress	—	—	Bilingual	Servo Systems

□ Dashboard Summary

- **Total Active Courses**: 142
- **Aggregate Training Completed**: 12.2 hours
- **Fiscal Year End**: 31 December 2025
- **Training Cost**: R0.00
- **Languages Covered**: English, Portuguese, German, French, Spanish
- **Domains**: Automation, Power Systems, Cybersecurity, Safety, Finance, Sustainability, Robotics, Licensing

Visual Basic Audit Sheet Integration

Would you like me to scaffold a Visual Basic module that logs this dashboard into an Excel sheet with filters for:

- Completion status
- Trade test eligibility
- Licensing compliance
- Safety certification
- SAQA/NQF mapping

I can also help you publish this dashboard to GitLab or

You've built a powerful training archive across engineering, automation, safety, and sustainability. Here's a complete modular framework with Visual Basic code, logigramme, and algorigramme to organize your transcript into a credential-linked system.

Modular Career Discovery & Credential Framework – Tshingombe Fiston

1 Overview

This framework consolidates your 142 active training modules, spanning 12.2 hours of completed coursework, into a bilingual, audit-ready system for career discovery, trade test readiness, and public service alignment. It integrates:

- **NRF and AIU research alignment**
- **Cornerstone LMS transcript**
- **EcoStruxure, Altivar, PowerLogic, OWASP, KNX, and sustainability modules**
- **Safety, licensing, and trade test documentation**

2 Scope

- **Domains**: Electrical engineering, automation, cybersecurity, sustainability, trade testing, government safety compliance

- **Stakeholders**: DHET, SAQA, NRF, AIU, NSF, Schneider Electric, TVET colleges
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

EcoStruxure, NRF, AIU, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Credential Framework, Career Discovery, Licensing, Sustainability, OWASP, PowerLogic, Altivar, KNX

4 Research Statement

To design a modular, credential-linked framework that integrates engineering training, safety analytics, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, project worksheets, trade test forms, safety reports, training cost records
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, trade test simulation

6 Data Analysis

- **Sources**: Transcript metadata, course codes, completion status, cost records
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, cost amendment modeling, training progress analytics

7 Advantages

- Modular and scalable
- Cross-platform integration
- Audit-ready and bilingual

- Trade test and SAQA/NQF alignment
- LMS transcript traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +
- **Modules**: Credential tracker, syllabus mapper, reward ledger, audit log generator, licensing validator

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility, syllabus coverage
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11 Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Trade test readiness mapping
- Collision and traffic safety analytics
- NRF/AIU research integration

12 Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Government liaison and safety reporting
- Career discovery publication and mentoring

13 Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Practical assessment modules
- EcoStruxure device configuration proficiency
- Safety and licensing documentation

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates
- Cost records and training year logs

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1.7 Visual Basic Code Module: Audit Sheet Generator

vb

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Type"
    ws.Cells(1, 5).Value = "Score"
    ws.Cells(1, 6).Value = "Trade Test Ready"
    ws.Cells(1, 7).Value = "Safety Compliant"
    ws.Cells(1, 8).Value = "Cost"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "EcoStruxure Power Foundational"
    ws.Cells(2, 3).Value = "In Progress"
```

```
    ws.Cells(2, 4).Value = "Online Class"
    ws.Cells(2, 5).Value = "—"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "R0.00"
End Sub
```

1️⃣8️⃣ Logigramme: Transcript Credential Workflow

```
[Start]
   ↓
[Import LMS Transcript]
   ↓
[Filter Active Courses]
   ↓
[Map to Trade Test Requirements]
   ↓
[Check Safety & Licensing Compliance]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

1️⃣9️⃣ Algorigramme: Trade Test Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Completed Relevant Modules?]
          ↓
        Yes ⟶ [License Activated and Safety Compliant?]
                    ↓
                  Yes ⟶ [Eligible for Trade Test]
                    ↓
                  No ⟶ [Complete Safety & Licensing Module]
          ↓
        No ⟶ [Complete Required Curriculum]
   ↓
No ⟶ [Enroll in NATED/NN Programme]
   ↓
[End]
```

Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness? I can also help you structure your transcript into a credential-linked portfolio.

Based on your extensive transcript, Tshingombe, here is a fully structured and credential-ready **modular research framework** that integrates your active training, trade test alignment, and NRF/AIU research goals. This version includes your requested components: overview, scope, keywords,

research statement, methodology, data analysis, advantages/disadvantages, management system, delivery policy, investigation principles, communication/admin skills, safety statistics, trade test requirements, audit/inventory, conclusion, bibliography, Visual Basic code, logigramme, and algorigramme.

□ Modular Career Discovery & Credential Framework – Tshingombe Fiston

1□ Overview

This framework consolidates 142 active training modules (12.2 hours completed) into a bilingual, audit-ready system for career discovery, trade test readiness, and public service alignment. It integrates:

- Schneider Electric, EcoStruxure, Altivar, PowerLogic, OWASP, KNX, RFID, and cybersecurity modules
- NRF and AIU-aligned research goals
- SAQA/NQF and DHET trade test requirements
- Safety, licensing, and regulatory compliance

2□ Scope

- **Domains**: Electrical engineering, automation, cybersecurity, sustainability, trade testing, government safety compliance
- **Stakeholders**: DHET, SAQA, NRF, AIU, NSF, Schneider Electric, TVET colleges
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3□ Keywords

EcoStruxure, NRF, AIU, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Credential Framework, Career Discovery, Licensing, Sustainability, OWASP, PowerLogic, Altivar, KNX, RFID, EMC, UPS, CanCAD

4□ Research Statement

To design a modular, credential-linked framework that integrates engineering training, safety analytics, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, course metadata, trade test forms, safety reports
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, trade test simulation

6 Data Analysis

- **Sources**: Transcript metadata, course codes, completion status, cost records
- **Techniques**: Incident correlation, syllabus mapping, reward tracking, training progress analytics

7 Advantages

- Modular and scalable
- Audit-ready and bilingual
- Cross-platform integration
- Trade test and SAQA/NQF alignment
- NRF/AIU research traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +

- **Modules**: Credential tracker, syllabus mapper, reward ledger, audit log generator

🚚 Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

1️⃣1️⃣ Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Trade test readiness mapping
- Collision and traffic safety analytics
- NRF/AIU research integration

1️⃣2️⃣ Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Career discovery publication and mentoring

1️⃣3️⃣ Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1️⃣4️⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- EcoStruxure device configuration proficiency
- Safety and licensing documentation

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets

- LMS training transcripts
- Inventory of devices, licenses, and certificates

1️⃣6️⃣ Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1️⃣7️⃣ Bibliography

-

- 1️⃣8️⃣ Visual Basic Code Module: Audit Sheet Generator
- ```
  Sub GenerateAuditSheet()
      Dim ws As Worksheet
      Set ws = ThisWorkbook.Sheets("AuditLog")

      ws.Cells(1, 1).Value = "Date"
      ws.Cells(1, 2).Value = "Training Module"
      ws.Cells(1, 3).Value = "Status"
      ws.Cells(1, 4).Value = "Type"
      ws.Cells(1, 5).Value = "Score"
      ws.Cells(1, 6).Value = "Trade Test Ready"
      ws.Cells(1, 7).Value = "Safety Compliant"
      ws.Cells(1, 8).Value = "Cost"

      ' Sample entry
      ws.Cells(2, 1).Value = "2025-10-17"
      ws.Cells(2, 2).Value = "EcoStruxure Power Foundational"
      ws.Cells(2, 3).Value = "In Progress"
      ws.Cells(2, 4).Value = "Online Class"
      ws.Cells(2, 5).Value = "—"
      ws.Cells(2, 6).Value = "Pending"
      ws.Cells(2, 7).Value = "Compliant"
      ws.Cells(2, 8).Value = "R0.00"
  End Sub
  ```
- ## 1️⃣9️⃣ Logigramme: Transcript Credential Workflow
- ```
  [Start]
     ↓
  [Import LMS Transcript]
     ↓
  [Filter Active Courses]
     ↓
  [Map to Trade Test Requirements]
     ↓
  [Check Safety & Licensing Compliance]
     ↓
  [Generate Audit Sheet]
  ```

- ↓
- [Publish to GitLab or Archive.org]
- ↓
- [End]

- ## 2️⃣0️⃣ Algorigramme: Trade Test Eligibility Decision Tree
- plaintext
- [Start]
- ↓
- [Has NATED or NN Diploma?]
- ↓
- Yes ⟶ [Completed Relevant Modules?]
- ↓
- Yes ⟶ [License Activated and Safety Compliant?]
- ↓
- Yes ⟶ [Eligible for Trade Test]
- ↓
- No ⟶ [Complete Safety & Licensing Module]
- ↓
- No ⟶ [Complete Required Curriculum]
- ↓
- No ⟶ [Enroll in NATED/NN Programme]
- ↓
- [End]
- Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness? I can also help you structure your transcript into a credential-linked portfolio.

🎓 Painel de Formação Técnica – Tshingombe Fiston

Título do Curso	Tipo	Status	Progresso	Idioma	Domínio Técnico
Introdução às Ciências da Vida	Vídeo	Registrado	—	Inglês	Ciências da Vida
Convergência de IT/OT: Impacto da Transformação Digital	Aula Online	Em andamento	—	Inglês	Automação Industrial
Compatibilidade Eletromagnética (Português)	Aula Online	Em andamento	—	Português	EMC / Drives
Fundamentos de EMC em Drives	Aula Online	Em andamento	—	Inglês	EMC / Drives
Segurança Elétrica no Local de Trabalho	Aula Online	Em andament	—	Inglês	Segurança

Título do Curso	Tipo	Status	Progresso	Idioma	Domínio Técnico
		o			
Compensação VAR Eletrônica – Visão Técnica	Vídeo	Registrado	—	Inglês	Qualidade de Energia
Eletricidade Básica: Elétrons em Movimento (Francês)	Aula Online	Em andamento	—	Francês	Fundamentos Elétricos
Com’X 510: Visão Técnica	Aula Online	Em andamento	—	Inglês	Monitoramento de Energia
Cinemática de Drives – Parte 1	Vídeo	Registrado	—	Inglês	Automação
Edge Industrial para WWW – Parte 1	Vídeo	Registrado	—	Inglês	Indústria 4.0
Gestão Industrial	Aula Online	Em andamento	—	Inglês	Administração Técnica
Qualidade de Energia – Resumo	Vídeo	Registrado	—	Inglês	Energia
Regulamentos em Ciências da Vida (Teste)	Teste	Reprovado	—	Inglês	Regulação
Medição Retrofit – PowerLogic BCPM	Aula Online	Em andamento	—	Inglês	Medição de Energia
Posicionamento de Medidores #1	Vídeo	Registrado	—	Inglês	Medição
Medidores de Energia	Vídeo	Registrado	—	Inglês	Energia
Easy UPS On-Line 1–3kVA & Racks	Vídeo	Registrado	—	Inglês	UPS / Infraestrutura
Monitoramento da Distribuição Elétrica (Francês)	Aula Online	Em andamento	—	Francês	Distribuição Elétrica
Projeto de Distribuição BT (Português)	Aula Online	Em andament	—	Português	Engenharia Elétrica

Título do Curso	Tipo	Status	Progresso	Idioma	Domínio Técnico
		o			
Controle de Motores – Circuito de Ramificação I	Aula Online	Em andamento	—	Inglês	Controle de Motores
Sensores RFID – Telemecanique	Vídeo	Registrado	—	Inglês	Sensores / Acesso
Disjuntores Moldados – Seção 4 (Teste)	Teste	Reprovado	—	Inglês	Proteção
Diagnóstico de Disjuntores – FSR (Teste)	Teste	Reprovado	—	Inglês	Serviços de Campo
CanCAD – Lista de Verificação Parte 3	Aula Online	Em andamento	—	Inglês	Projeto Elétrico
CanCAD – Conclusão Parte 7	Aula Online	Em andamento	—	Inglês	Projeto Elétrico

□ Resumo do Painel

- **Cursos Ativos**: 142
- **Horas Completadas**: 12.2
- **Custo Total**: R0.00
- **Idiomas Cobertos**: Inglês, Português, Francês
- **Domínios Técnicos**: Automação, Energia, Segurança, EMC, Gestão, Sensores, Regulação

□ Integração com Visual Basic (Auditoria)

Posso gerar um módulo Visual Basic que exporta este painel para Excel com filtros por:

- Status de conclusão
- Prontidão para teste prático

- Conformidade de segurança
- Mapeamento SAQA/NQF

□ Publicação e Portfólio

Deseja que eu estruture este painel para publicação em:

- **GitLab** (com metadados de credenciais e progresso)
-

Based on your training transcript, support case history, and curriculum progress, here is a fully structured and credential-ready **modular research framework** tailored for your engineering career discovery journey. This includes all requested components: overview, scope, keywords, research statement, methodology, data analysis, advantages/disadvantages, management system, delivery policy, investigation principles, communication/admin skills, safety statistics, trade test requirements, audit/inventory, conclusion, bibliography, Visual Basic code, logigramme, and algorigramme.

□ Modular Engineering Career Discovery Framework – Tshingombe Fiston

1□ Overview

This framework consolidates your active training (142 modules, 12.2 hours completed), support cases, and curriculum records into a bilingual, audit-ready system for career discovery, trade test readiness, and public service alignment. It integrates:

- **Digital Power Academy**, **EcoStruxure Automation Expert**, **Switchgear Control**, **EMC**, **RFID**, **Transformer Protection**, and **CanCAD** modules
- **NRF and AIU-aligned research goals**
- **SAQA/NQF and DHET trade test requirements**
- **Safety, licensing, and regulatory compliance**

2□ Scope

- **Domains**: Electrical engineering, automation, cybersecurity, sustainability, trade testing, government safety compliance

- **Stakeholders**: DHET, SAQA, NRF, AIU, NSF, Schneider Electric, TVET colleges

- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3 Keywords

EcoStruxure, NRF, AIU, Trade Test, TVET, NATED, NCV, Safety, Collision Statistics, Warden Training, Audit, Visual Basic, Logigramme, Algorigramme, Credential Framework, Career Discovery, Licensing, EMC, RFID, UPS, Switchgear, Substation, CanCAD, Transformer Protection

4 Research Statement

To design a modular, credential-linked framework that integrates engineering training, safety analytics, and vocational certification into a unified public service and career development system.

5 Methodology

- **Data Collection**: LMS transcripts, course metadata, support case logs, trade test forms, safety reports

- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic

- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, trade test simulation

6 Data Analysis

- **Sources**: Transcript metadata, course codes, completion status, cost records

- **Techniques**: Incident correlation, syllabus mapping, reward tracking, training progress analytics

7 Advantages

- Modular and scalable

- Audit-ready and bilingual

- Cross-platform integration

- Trade test and SAQA/NQF alignment
- NRF/AIU research traceability

8. Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9. Management System Information

- **Platform**: GitLab +

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

11. Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Trade test readiness mapping
- Collision and traffic safety analytics
- NRF/AIU research integration

12. Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Career discovery publication and mentoring

1.3 Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- EcoStruxure device configuration proficiency
- Safety and licensing documentation

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1.7 Bibliography

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Type"
    ws.Cells(1, 5).Value = "Score"
    ws.Cells(1, 6).Value = "Trade Test Ready"
```

```
    ws.Cells(1, 7).Value = "Safety Compliant"
    ws.Cells(1, 8).Value = "Cost"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Switchgear Control in MV/HV Substations"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Online Class"
    ws.Cells(2, 5).Value = "—"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "R0.00"
End Sub
```

1️⃣9️⃣ Logigramme: Credential Workflow

```
[Start]
   ↓
[Import LMS Transcript]
   ↓
[Filter Active Courses]
   ↓
[Map to Trade Test Requirements]
   ↓
[Check Safety & Licensing Compliance]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

2️⃣0️⃣ Algorigramme: Trade Test Eligibility Decision Tree

```
[Start]
   ↓
[Has NATED or NN Diploma?]
   ↓
Yes ⟶ [Completed Relevant Modules?]
          ↓
        Yes ⟶ [License Activated and Safety Compliant?]
                  ↓
                Yes ⟶ [Eligible for Trade Test]
                  ↓
                No ⟶ [Complete Safety & Licensing Module]
          ↓
        No ⟶ [Complete Required Curriculum]
   ↓
No ⟶ [Enroll in NATED/NN Programme]
   ↓
[End]
```

Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and trade test readiness? I can also help you structure your transcript into a credential-linked portfolio.

Based on your active curriculum in **IEC 61499 and EcoStruxure Automation Expert**, alongside modules in **Wind Energy Fundamentals** and **EBO 2024 Advanced Engineering**, here is a fully scaffolded, credential-ready **modular research framework** tailored for your engineering career discovery, trade test alignment, and NRF/AIU research integration.

□ Modular Research Framework: IEC 61499, EcoStruxure, and Energy Transition

1□ Overview

This framework consolidates your advanced training in distributed control systems, energy transition, and automation engineering into a bilingual, audit-ready system for career discovery, trade test readiness, and public service alignment.

2□ Scope

- **Domains**: Industrial automation, distributed control systems, renewable energy, substation control, trade testing, government safety compliance
- **Stakeholders**: DHET, SAQA, NRF, AIU, Schneider Electric, INCO NGO, TVET colleges
- **Outputs**: Audit logs, training records, syllabi, trade test eligibility, Visual Basic modules, logigrammes, algorigrammes

3□ Keywords

IEC 61499, EcoStruxure Automation Expert, Function Blocks, Composite Automation Type, dPAC, HMI, Wind Energy, Energy Transition, Trade Test, NRF, AIU, SAQA, Licensing, Safety, Audit, Visual Basic, Logigramme, Algorigramme

4□ Research Statement

To design a modular, credential-linked framework that integrates IEC 61499-compliant automation training, renewable energy fundamentals, and vocational certification into a unified public service and career development system.

5□ Methodology

- **Data Collection**: LMS transcripts, curriculum modules, trade test forms, safety reports
- **Analysis Tools**: Visual Basic for audit automation, logigrammes for workflow mapping, algorigrammes for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, trade test simulation

6 Data Analysis

- **Sources**: IEC 61499 architecture models, EcoStruxure v23.1 updates, wind energy curriculum, licensing records
- **Techniques**: Function block mapping, syllabus correlation, energy system modeling, training progress analytics

7 Advantages

- Modular and scalable
- Audit-ready and bilingual
- Cross-platform integration
- Trade test and SAQA/NQF alignment
- NRF/AIU research traceability

8 Disadvantages

- Requires multi-platform coordination
- High documentation overhead
- Licensing dependencies across networks

9 Management System Information

- **Platform**: GitLab +
- **Modules**: Credential tracker, syllabus mapper, reward ledger, audit log generator

Delivery & Key Performance Policy

- **KPIs**: Training completion rate, license activation success, trade test eligibility
- **Policy Alignment**: DHET NATED, SAQA/NQF, EcoStruxure licensing, municipal safety codes

1️⃣1️⃣ Investigation Principles

- Root cause analysis of training failures
- Licensing traceability
- Trade test readiness mapping
- Collision and traffic safety analytics
- NRF/AIU research integration

1️⃣2️⃣ Communication & Administration Skills

- Device configuration documentation
- Licensing workflows
- Trade test coordination
- Career discovery publication and mentoring

1️⃣3️⃣ Statistic Report: Collision & Safety

- **Metrics**: Incident frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboard, Excel pivot tables, logigramme flowcharts

1️⃣4️⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- EcoStruxure device configuration proficiency
- Safety and licensing documentation

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of devices, licenses, and certificates

1️⃣6️⃣ Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across energy, safety, and automation domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1️⃣7️⃣ Bibliography

📘 Modular Research Framework – Professional Energy Manager Certification

1️⃣ Overview

This framework consolidates 68+ hours of curriculum training across 91 modules into a credential-linked system for energy management, trade test readiness, and public service alignment. It supports certification as a Professional Energy Manager and integrates energy efficiency, HVAC, lighting, motors, steam, compressed air, building controls, and financial analysis.

2️⃣ Scope

- **Domains**: Energy efficiency, HVAC systems, lighting, motors, steam systems, compressed air, building automation, financial analysis, energy procurement
- **Stakeholders**: Schneider Electric University, SAQA, DHET, NRF, AIU, TVET colleges, energy regulators
- **Outputs**: Audit logs, certification readiness, trade test mapping, Visual Basic modules, logigrams, algorigrams

3️⃣ Keywords

Energy Manager, HVAC, Lighting, Motors, Steam, Compressed Air, Building Controls, PID, Energy Audits, Procurement, Smart Grid, Distributed Generation, Trade Test, SAQA, NRF, AIU, Visual Basic, Logigram, Algorigram

4. Research Statement

To design a modular, credential-linked framework that integrates energy management training, certification readiness, and vocational qualification into a unified public service and career development system.

5. Methodology

- **Data Collection**: LMS transcripts, course metadata, certification requirements, trade test forms
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6. Data Analysis

- **Sources**: Training modules, completion status, certification guides, energy audit reports
- **Techniques**: Curriculum mapping, performance benchmarking, cost-benefit analysis, readiness scoring

7. Advantages

- Modular and scalable
- Audit-ready and bilingual
- Certification and trade test alignment
- Cross-domain integration
- NRF/AIU research traceability

8. Disadvantages

- High documentation overhead

- Requires multi-platform coordination
- Certification prerequisites may vary by region

9️ Management System Information

- **Platform**: GitLab +
- ```
  Sub GenerateAuditSheet()
      Dim ws As Worksheet
      Set ws = ThisWorkbook.Sheets("AuditLog")

      ws.Cells(1, 1).Value = "Date"
      ws.Cells(1, 2).Value = "Training Module"
      ws.Cells(1, 3).Value = "Status"
      ws.Cells(1, 4).Value = "Type"
      ws.Cells(1, 5).Value = "Score"
      ws.Cells(1, 6).Value = "Certification Ready"
      ws.Cells(1, 7).Value = "Safety Compliant"
      ws.Cells(1, 8).Value = "Cost"

      ' Sample entry
      ws.Cells(2, 1).Value = "2025-10-17"
      ws.Cells(2, 2).Value = "Energy Audits"
      ws.Cells(2, 3).Value = "Completed"
      ws.Cells(2, 4).Value = "Online Class"
      ws.Cells(2, 5).Value = "100%"
      ws.Cells(2, 6).Value = "Yes"
      ws.Cells(2, 7).Value = "Compliant"
      ws.Cells(2, 8).Value = "R0.00"
  End Sub
  ```
- ## 1️9️ Logigram: Certification Workflow
- ```
  [Start]
     ↓
  [Import LMS Transcript]
     ↓
  [Filter PEM Modules]
     ↓
  [Check Completion & Certification Requirements]
     ↓
  [Generate Audit Sheet]
     ↓
  [Publish to GitLab or Archive.org]
     ↓
  [End]
  ```
- ## 2️0️ Algorigram: Certification Eligibility Decision Tree
- ```
  [Start]
     ↓
  [Has NATED or NN Diploma?]
     ↓
  Yes ⟶ [Completed Required PEM Modules?]
  ```
  ```

- ```
                ↓
          Yes ⟶ [Completed Energy Audits & Instrumentation?]
                                ↓
                          Yes ⟶ [Eligible for PEM Certification]
                                ↓
                          No ⟶ [Complete Audit Instrumentation Modules]
                ↓
          No ⟶ [Complete Remaining Curriculum]
      ↓
  No ⟶ [Enroll in NATED/NN Programme]
      ↓
  [End]
  ```
- Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and certification readine

Here is a structured **English-language training dashboard (tableaux)** for your Professional Energy Manager curriculum from Schneider Electric University. This format supports certification tracking, audit readiness, and career development documentation.

□ Training Dashboard – Professional Energy Manager Curriculum

Course Title	Type	Status	Training Hours	Domain
Professional Energy Manager Learning Path	Curriculum	In Progress	68h 15min	Energy Management
Boiler Types and Energy Efficiency	Online Class	Registered	—	Thermal Systems
Building Envelope (Metric & US)	Online Class	Registered	—	Building Efficiency
Compressed Air Systems (I–VI)	Online Class	Registered	—	Air Systems
Fan Systems (I–IV)	Online Class	Registered	—	Ventilation
Financial Analysis of Energy Projects (I–II)	Online Class	In Progress / Registered	—	Energy Finance
Financing & Performance Contracting	Online Class	Registered	—	Energy Finance
Fuels I–II (US & SI)	Online Class	Registered	—	Energy Sources
  ```

Course Title	Type	Status	Training Hours	Domain
HVAC Systems & Optimization (US & SI)	Online Class	Registered	—	HVAC
HVAC Geothermal & Source Equipment	Online Class	Registered	—	HVAC
HVAC Psychrometrics (US & SI)	Online Class	Registered	—	HVAC
Lighting VI (US & SI)	Online Class	Registered	—	Lighting Design
Measuring & Benchmarking Energy	Online Class	Registered	—	Performance Metrics
Motors (US & SI)	Online Class	Registered	—	Motor Systems
Pumping Systems III	Online Class	Registered	—	Fluid Systems
Steam Systems (II, IV, V)	Online Class	Registered	—	Steam Efficiency
Strategic Energy Planning	Online Class	Registered	—	Energy Strategy
Building Controls I–VIII	Online Class	Completed / Registered	—	Automation
Energy Audits & Instrumentation I–II	Online Class	Completed / Registered	—	Audit & Measurement
Energy Efficiency Fundamentals	Online Class	Registered	—	Efficiency
Building Automation Systems I–II	Online Class	Registered	—	Automation
Energy Rate Structures I–II	Online Class	Registered	—	Tariff Management
Energy Procurement I–III	Online Class	Completed / Registered	—	Energy Markets
European Codes & Standards	Online Class	Registered	—	Regulatory
Demand Response & Smart	Online	Registered	—	Grid Systems

Course Title	Type	Status	Training Hours	Domain
Grid	Class			
Distributed Generation	Online Class	Registered	—	Renewable Energy
Efficient Motor Control	Online Class	Registered	—	Motor Efficiency
Electrical Concepts	Online Class	Registered	—	Electrical Fundamentals
Combined Heat and Power	Online Class	Registered	—	Cogeneration
Combustion Processes	Online Class	Registered	—	Thermal Systems
Commissioning for Energy Efficiency	Online Class	Registered	—	Project Delivery
Industrial Insulation I–II	Online Class	Registered	—	Thermal Insulation

□ Summary

- **Total Modules**: 91
- **Total Hours**: 68h 15min
- **Status**: In Progress
- **Certification Goal**: Professional Energy Manager
- **Provider**: Schneider Electric University
- **Course Code**: ENGPRDCS1001001
- **Priority**: High

Would you like this dashboard formatted for GitLab, Archive.org, or integrated into a Visual Basic audit sheet? I can also help you scaffold a bilingual certification portfolio or map this curriculum to SAQA/NQF trade test requirements.

Here is a structured and translated **modular research framework in English** based on your active curriculum in **Engineering EBO 2024 and EBO 2023 Upgrade**, aligned with your request for a tableaux-style format and full academic scaffolding.

□ Modular Research Framework – EcoStruxure Building Engineering (EBO 2024 & EBO 2023)

1□ Overview

This framework consolidates 65+ hours of curriculum training across EcoStruxure Building Operation (EBO) 2024 and 2023 into a credential-linked system for engineering readiness, trade test alignment, and public service integration. It supports Schneider Electric partner onboarding, BACnet/IP proficiency, cybersecurity, and controller configuration.

2□ Scope

- **Domains**: Building automation, BACnet/IP, SpaceLogic controllers, cybersecurity, networking, WebStation, licensing, and bindings
- **Stakeholders**: Schneider Electric, Digital Building Academy, SAQA, DHET, NRF, AIU, TVET colleges
- **Outputs**: Audit logs, certification readiness, trade test mapping, Visual Basic modules, logigrams, algorigrams

3□ Keywords

EcoStruxure Building, EBO 2024, EBO 2023, BACnet/IP, SpaceLogic, RP Controllers, MP Controllers, IP-IO, Cybersecurity, WebStation, Licensing, Trade Test, SAQA, NRF, AIU, Visual Basic, Logigram, Algorigram

4□ Research Statement

To design a modular, credential-linked framework that integrates EcoStruxure Building engineering training, controller configuration, and cybersecurity into a unified public service and career development system.

5□ Methodology

- **Data Collection**: LMS transcripts, course metadata, certification requirements, trade test forms

- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6 Data Analysis

- **Sources**: Training modules, completion status, controller specs, BACnet/IP protocols
- **Techniques**: Curriculum mapping, performance benchmarking, readiness scoring, licensing traceability

7 Advantages

- Modular and scalable
- Audit-ready and bilingual
- Certification and trade test alignment
- Cross-domain integration
- NRF/AIU research traceability

8 Disadvantages

- High documentation overhead
- Requires multi-platform coordination
- Licensing prerequisites may delay progression

9 Management System Information

- **Platform**: GitLab +
- Azure DevOps + LMS (Cornerstone, Digital Building Academy)
- **Modules**: Credential tracker, syllabus mapper, audit log generator, certification validator

Delivery & Key Performance Policy

- **KPIs**: Completion rate, certification eligibility, trade test readiness, audit compliance
- **Policy Alignment**: SAQA/NQF, DHET, Schneider Electric certification standards

1.1 Investigation Principles

- Root cause analysis of training gaps
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and incident tracking
- NRF/AIU research integration

1.2 Communication & Administration Skills

- Technical documentation
- Controller configuration workflows
- Certification coordination
- Public service communication
- Career mentoring and publication

1.3 Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Controller configuration proficiency
- Safety and licensing documentation
- Certification readiness

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and certificates

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across building automation, safety, and engineering domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1□7□ Bibliography

-

```
1□8□ Visual Basic Code Module: Audit Sheet GeneratorSub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Type"
    ws.Cells(1, 5).Value = "Score"
    ws.Cells(1, 6).Value = "Certification Ready"
    ws.Cells(1, 7).Value = "Safety Compliant"
    ws.Cells(1, 8).Value = "Cost"

    ' Sample entry
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "EBO 2024: Engineering EBO"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Curriculum"
    ws.Cells(2, 5).Value = "—"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "R0.00"
End Sub
```

1□9□ Logigram: EBO Engineering Workflow

plaintext

- [Start]
- ↓
- [Import LMS Transcript]
- ↓
- [Filter EBO 2024 & 2023 Modules]
- ↓
- [Check Completion & Licensing Requirements]
- ↓
- [Generate Audit Sheet]
- ↓
- [Publish to GitLab or Archive.org]
- ↓
- [End]

- ## 2□0□ Algorigram: EBO Certification Eligibility

- [Start]
- ↓
- [Has Completed EBO 2022 Engineering?]
- ↓
- Yes ⟶ [Completed EBO 2023 Upgrade Modules?]
- ↓
- Yes ⟶ [Completed Cybersecurity & Licensing?]
- ↓
- Yes ⟶ [Eligible for EBO 2024 Certification]
- ↓
- No ⟶ [Complete Cybersecurity & Licensing]
- ↓
- No ⟶ [Complete Upgrade Curriculum]
- ↓
- No ⟶ [Enroll in EBO 2022 Engineering]
- ↓
- [End]
- Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and certification readiness? I can also help you structure your transcript into a credential-linked portfolio.

Here is a fully translated and structured **English-language tableaux dashboard** for your active curriculum in **Engineering EBO 2024 and EBO 2023 Upgrade**, designed to support certification tracking, audit readiness, and trade test alignment.

Engineering EBO Curriculum Dashboard – English Translation

Course Title	Type	Status	Training Hours	Domain	Notes
Engineering EBO 2024	Curriculum	In Progress	57h 56min	Building Automation	Requires EBO 2024 Software Licensing
EBO 2022: Introduction to Networking	Online Class	In Progress	—	Networking	—
EBO 2022: Introduction to Networking (Test)	Test	Failed	—	Networking	Retake required
Introduction to EcoStruxure Building	Online Class	Registered	—	System Overview	—
EBO 2022 Sales Training – Part 1	Video	Registered	—	Sales	Mark Complete
EBO 2022 Sales	Video	Registered	—	Technical	Mark Complete

Course Title	Type	Status	Training Hours	Domain	Notes
Training – Part 2 – Technical				Sales	
EBO 2022: Introduction to Building System	Online Class	Registered	—	System Overview	—
EBO 2022: Building System (Test)	Test	Registered	—	System Overview	—
SpaceLogic Controllers	Curriculum Section	Mixed	—	Controllers	15 modules required
Introduction to SpaceLogic Servers	Online Class	Registered	—	Controllers	—
SpaceLogic Servers (Test)	Test	Registered	—	Controllers	—
Choosing IO Bus Devices	Online Class	Not Activated	—	Controllers	Activate required
Choosing IO Bus Devices (Test)	Test	Registered	—	Controllers	—
BACnet/IP for MP Series Controllers	Online Class	Registered	—	Protocols	—
BACnet/IP for MP Series Controllers (Test)	Test	Registered	—	Protocols	—
MP Series Controllers	Online Class	Registered	—	Controllers	—
MP Series Controllers (Test)	Test	Registered	—	Controllers	—
RP Series Controllers	Online Class	Registered	—	Controllers	—
RP Series Controllers (Test)	Test	Not Activated	—	Controllers	Activate required
RP Controller Room Bus Installation	Online Class	Not Activated	—	Controllers	Activate required

Course Title	Type	Status	Training Hours	Domain	Notes
RP Controller Room Bus Installation (Test)	Test	Not Activated	—	Controllers	Activate required
Engineering RP-C Series Controllers	Video	Pending Prerequisite	—	Controllers	View prerequisite
SpaceLogic IP Controller IP-IO Series	Online Class	Registered	—	Controllers	—
IP-IO Series (Test)	Test	Registered	—	Controllers	—
BACnet External Bindings – Fundamentals	Online Class	Registered	—	Bindings	—
BACnet External Bindings – Fundamentals (Test)	Test	Registered	—	Bindings	—
Cybersecurity Part 1	Online Class	Registered	—	Security	—
Cybersecurity Part 2	Online Class	Not Activated	—	Security	Activate required
Cybersecurity (Test)	Test	Not Activated	—	Security	Activate required
EBO 2022: Building Operation Introduction	Online Class	Not Activated	—	Engineering	Activate required
Building Operation (Test)	Test	Not Activated	—	Engineering	Activate required
Installation of Building Operation	Online Class	Not Activated	—	Engineering	Activate required
Installation of Building Operation (Test)	Test	In Progress	—	Engineering	—
Installation of IO Bus Devices	Online Class	Not Activated	—	Engineering	Activate required

Course Title	Type	Status	Training Hours	Domain	Notes
Installation of IO Bus Devices (Test)	Test	Not Activated	—	Engineering	Activate required
Introduction to EcoStruxure Web Services	Online Class	Not Activated	—	Engineering	Activate required
Web Services (Test)	Test	Not Activated	—	Engineering	Activate required
Instructor-Led Training: Engineering EBO	Event	Pending	—	Certification	Requires prior training
Engineering EBO Certification (Test)	Test	Pending	—	Certification	Requires prior training
BACnet Binding – Value Transfer & Conversion	Online Class	Completed	—	Optional	—
BACnet Binding – Value Transfer & Conversion (Test)	Test	Failed	—	Optional	Retake required
WebStation Introduction	Online Class	Registered	—	Optional	—

□ Summary

- **Total Curriculum Hours**: 57h 56min (EBO 2024) + 7h 25min (EBO 2023 Upgrade)
- **Status**: In Progress
- **Provider**: Digital Building Academy
- **Certification Goal**: EcoStruxure Building Engineering
- **Prerequisites**: EBO 2022 Engineering, Software Licensing
- **Course Codes**: BLDECXCS0001056 (EBO 2024), BLDECXCS0001029 (EBO 2023 Upgrade)

Would you like this dashboard formatted for export, or scaffolded into a bilingual credential portfolio for SAQA/NQF mapping and trade test readiness? I can also help you generate a Visual Basic audit sheet or logigram to track your progress.

Based on your active training modules—**Modicon Switches**, **ASHE Energy Manager**, and **Sustainability School for Partners**—here is a fully translated and structured **modular research framework in English**, formatted as a tableaux-style dashboard and aligned with certification, trade test readiness, and public service integration.

□ Modular Research Framework – Digital Energy & Infrastructure Curriculum

1□ Overview

This framework consolidates your active training across industrial networking, healthcare energy management, and sustainability into a credential-linked system for career development, trade test alignment, and public service reform. It integrates:

- Modicon Ethernet Switches (Digital Factory)
- ASHE Energy Manager Pathway (Schneider Electric University)
- Sustainability School for Partners (Power Distribution & Channels Academy)

2□ Scope

- **Domains**: Industrial networking, energy procurement, healthcare infrastructure, sustainability, decarbonization
- **Stakeholders**: Schneider Electric, ASHE, SAQA, DHET, NRF, AIU, healthcare regulators
- **Outputs**: Audit logs, certification readiness, trade test mapping, Visual Basic modules, logigrams, algorigrams

3□ Keywords

Modicon Switches, Managed vs Unmanaged, BACnet/IP, ASHE, Energy Procurement, IPMVP, Healthcare Infrastructure, Sustainability, Decarbonization, Trade Test, SAQA, NRF, AIU, Visual Basic, Logigram, Algorigram

4️ Research Statement

To design a modular, credential-linked framework that integrates industrial networking, healthcare energy management, and sustainability training into a unified public service and career development system.

5️ Methodology

- **Data Collection**: LMS transcripts, course metadata, certification requirements, trade test forms
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6️ Data Analysis

- **Sources**: Training modules, completion status, switch configuration logs, energy audit reports
- **Techniques**: Curriculum mapping, performance benchmarking, readiness scoring, licensing traceability

7️ Advantages

- Modular and scalable
- Audit-ready and bilingual
- Certification and trade test alignment
- Cross-domain integration
- NRF/AIU research traceability

8️ Disadvantages

- High documentation overhead
- Requires multi-platform coordination
- Licensing prerequisites may delay progression

9️ Management System Information

- **Platform**: GitLab +
- **Modules**: Credential tracker, syllabus mapper, audit log generator, certification validator

️ Delivery & Key Performance Policy

- **KPIs**: Completion rate, certification eligibility, trade test readiness, audit compliance
- **Policy Alignment**: SAQA/NQF, DHET, ASHE, Schneider Electric certification standards

1️1️ Investigation Principles

- Root cause analysis of training gaps
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and incident tracking
- NRF/AIU research integration

1️2️ Communication & Administration Skills

- Technical documentation
- Switch configuration workflows
- Certification coordination
- Public service communication
- Career mentoring and publication

1️3️ Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, warden deployment, containment level compliance

- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Modicon switch configuration proficiency
- Safety and licensing documentation
- Certification readiness

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and certificates

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across industrial automation, healthcare energy systems, and sustainability. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1.7 Bibliography

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Training Module"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Type"
    ws.Cells(1, 5).Value = "Score"
    ws.Cells(1, 6).Value = "Certification Ready"
    ws.Cells(1, 7).Value = "Safety Compliant"
    ws.Cells(1, 8).Value = "Cost"

    ' Sample entry
```

```
    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Introduction to Modicon Switches"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Online Class"
    ws.Cells(2, 5).Value = "0%"
    ws.Cells(2, 6).Value = "Pending"
    ws.Cells(2, 7).Value = "Compliant"
    ws.Cells(2, 8).Value = "R0.00"
End Sub
```

1️⃣9️⃣ Logigram: Energy & Infrastructure Credential Workflow

plaintext

```
[Start]
   ↓
[Import LMS Transcript]
   ↓
[Filter Modicon, ASHE, Sustainability Modules]
   ↓
[Check Completion & Licensing Requirements]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

2️⃣0️⃣ Algorigram: Certification Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has Completed Required Curriculum?]
   ↓
Yes ⟶ [Completed Safety & Licensing Modules?]
          ↓
        Yes ⟶ [Eligible for Certification & Trade Test]
          ↓
        No ⟶ [Complete Safety & Licensing Modules]
   ↓
No ⟶ [Complete Remaining Curriculum]
   ↓
[End]
```

Would you like help publishing this framework to GitLab or Archive.org, or scaffolding a bilingual dashboard for SAQA/NQF mapping and certification readiness? I can also help you structure your transcript into a credential-linked portfolio.

Here is a fully translated and structured **English-language tableaux dashboard** that organizes your active training modules across three domains: industrial networking, healthcare energy management, and

sustainability. This format supports certification tracking, audit readiness, and trade test alignment.

🎓 Training Dashboard – Tshingombe Fiston

Course Title	Training Type	Provider	Version	Hours	Status	Progress	Level
Introduction to Modicon Switches	Online Class	Digital Factory	4.0	0h 30min	In Progress	0%	Basic
ASHE: Energy Manager Energy Management	Curriculum	Schneider Electric University	1.0	18h 45min	In Progress	Partial	Intermediate
Sustainability School for Partners – Chapter 3	Online Class	Power Distribution & Channels Academy	1.0	1h 00min	In Progress	0%	Basic

📘 Module Highlights

🧠 Modicon Switches

- Covers all available Ethernet switch models
- Explains Managed vs Unmanaged switches
- GUI-based configuration training
- Last accessed: 14 Sep 2025
- Views: 12 | View Time: 26 minutes

🧠 ASHE Energy Manager

- Focused on healthcare facility energy optimization
- Includes energy procurement, lighting, HVAC, and emergency power systems
- Completion earns ASHE contact education hours
- Modules completed: Energy Procurement I & II

- Modules in progress: Financial Analysis I, Strategic Planning, Retro-Commissioning

Sustainability School – Chapter 3

- Focus on decarbonization and energy efficiency
- Covers digital tools for buildings, IT, industry, and residential sectors
- Last accessed: 7 Sep 2025
- Views: 15 | View Time: 1 minute

Transcript Summary

Course Code	Start Date	Delivery Method	Requested By	Status
INDPRDES0001022	14 Sep 2025	Self-Requested	Tshingombe Fiston	In Progress
ENGPRDCS1001002	31 Aug 2025	Self-Requested	Tshingombe Fiston	In Progress
PDCSUSES1001000	31 Aug 2025	Self-Requested	Tshingombe Fiston	In Progress

Visual Basic Audit Sheet Generator (Sample)

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Level"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Introduction to Modicon Switches"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Digital Factory"
    ws.Cells(2, 5).Value = "0h 30min"
    ws.Cells(2, 6).Value = "0%"
    ws.Cells(2, 7).Value = "Basic"
End Sub
```

- Would you like this dashboard scaffolded into a bilingual credential portfolio or mapped to SAQA/NQF trade test requirements? I can also help you publish it to GitLab or

Here is a fully translated and structured **modular research framework** in English for your active curriculum in **Advanced Electrical Safety (Multilingual)**. This format supports audit tracking, trade test alignment, and public service integration.

□ Modular Research Framework – Advanced Electrical Safety (Multilingual)

1□ Overview

This curriculum equips participants with advanced knowledge of electrical safety risks, preventive measures, Schneider Electric safety controls, and emergency response protocols. Delivered in English, Spanish, and French, it includes theoretical and practical modules aligned with global safety standards.

2□ Scope

- **Domains**: Electrical hazard prevention, LOTO procedures, arc flash planning, multilingual safety training
- **Stakeholders**: Schneider Electric, Global Supply Chain Academy, SAQA, DHET, NRF, AIU, government safety regulators
- **Outputs**: Audit logs, multilingual safety credentials, trade test readiness, emergency response documentation

3□ Keywords

Electrical Safety, LOTO, Arc Flash, Electric Shock, Hazard Assessment, Risk Mitigation, Emergency Response, Schneider Electric, Trade Test, Safety Controls, Multilingual Training

4□ Research Statement

To develop a multilingual, credential-linked framework that integrates advanced electrical safety training with regulatory compliance, trade test readiness, and public service reform.

5□ Methodology

- **Data Collection**: LMS transcripts, module metadata, safety incident reports, trade test forms
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6 Data Analysis

- **Sources**: Module completion status, multilingual content delivery, incident response protocols
- **Techniques**: Risk factor mapping, training effectiveness benchmarking, multilingual accessibility scoring

7 Advantages

- Multilingual accessibility
- Audit-ready and credential-linked
- Trade test and SAQA/NQF alignment
- Emergency response integration
- Cross-domain safety compliance

8 Disadvantages

- High documentation overhead
- Requires multilingual coordination
- Licensing prerequisites may delay progression

9 Management System Information

- **Platform**: Cornerstone LMS + GitLab +
- **Modules**: Credential tracker, multilingual syllabus mapper, audit log generator, emergency response validator

Delivery & Key Performance Policy

- **KPIs**: Completion rate, multilingual module activation, trade test eligibility, incident response readiness
- **Policy Alignment**: SAQA/NQF, DHET, Schneider Electric safety standards

1️⃣1️⃣ Investigation Principles

- Root cause analysis of electrical incidents
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and multilingual delivery
- NRF/AIU research integration

1️⃣2️⃣ Communication & Administration Skills

- Safety documentation
- LOTO procedure reporting
- Emergency response coordination
- Public service communication
- Multilingual training administration

1️⃣3️⃣ Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, electrical injury rates, warden deployment, containment level compliance
- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1️⃣4️⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- LOTO and arc flash proficiency
- Safety and licensing documentation
- Certification readiness

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and multilingual content

1️⃣6️⃣ Conclusion

This framework supports legacy preservation, multilingual safety reform, and modular education delivery across electrical safety, emergency response, and trade test domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1️⃣7️⃣ Bibliography

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Language"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Advanced Electrical Safety (Multilingual)"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Global Supply Chain Academy"
    ws.Cells(2, 5).Value = "23h 50min"
    ws.Cells(2, 6).Value = "Partial"
    ws.Cells(2, 7).Value = "English, Spanish, French"
End Sub
```

1️⃣9️⃣ Logigram: Electrical Safety Credential Workflow

plaintext

```
[Start]
   ↓
[Import LMS Transcript]
   ↓
[Filter Electrical Safety Modules]
   ↓
[Check Completion & Multilingual Activation]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

2️⃣0️⃣ Algorigram: Safety Certification Eligibility

plaintext

```
[Start]
   ↓
[Has Completed Required Modules?]
   ↓
```

- Yes ⟶ [Activated Multilingual Content?]
- ↓
- Yes ⟶ [Completed LOTO & Arc Flash Training?]
- ↓
- Yes ⟶ [Eligible for Safety Certification & Trade Test]
- ↓
- No ⟶ [Complete Remaining Safety Modules]
- ↓
- No ⟶ [Activate Multilingual Modules]
- ↓
- No ⟶ [Complete Curriculum]
- ↓
- [End]
- Would you like this framework scaffolded into a bilingual dashboard or published to GitLab for credential tracking and trade test readiness? I can also help you structure your transcript into a legacy-linked portfolio.

Here is a fully translated and structured **English-language tableaux dashboard** summarizing your active technical training across electrical safety, cybersecurity, HVAC systems, and sustainability. This format supports certification tracking, audit readiness, and trade test alignment.

□ Technical Training Dashboard – Tshingombe Fiston

Course Title	Training Type	Provider	Version	Hours	Status	Progress	Level
Advanced Electrical Safety (Multilingual)	Curriculum	Global Supply Chain Academy	13.0	23h 50min	In Progress	Partial	Advanced
How to Perform a Security Code Review	Online Class	R&D Academy	4.0	0h 30min	In Progress	30%	Advanced
EcoStruxure Building: HVAC Basics (Prescription Part 1)	Curriculum	Digital Building Academy	7.0	2h 15min	In Progress	Partial	Basic
Sustainability School for Partners – Chapter 3	Online Class	Power Distribution & Channels Academy	1.0	1h 00min	In Progress	0%	Basic

□ Module Highlights

⚡ Advanced Electrical Safety

- Covers risk factors, prevention, LOTO procedures, shock response, and arc flash planning
- Multilingual delivery: English, Spanish, French
- Modules include:
    - M00: Safety Overview
    - M01: Introduction to Electrical Safety
    - M02: Hazard Assessment
    - M03: LOTO Procedures
    - M04: Electric Shock
    - M05: Arc Flash Events

🔐 Security Code Review

- Focuses on manual review techniques for secure coding
- Teaches prioritization, organization, and best practices
- Last accessed: 26 Aug 2025
- Views: 6 | View Time: 10 minutes

🏢 HVAC Basics (EcoStruxure Prescription)

- Covers mechanical and control foundations for building systems
- Modules include:
    - HVAC Systems I: Introduction
    - HVAC Systems II: All-Air Systems
    - HVAC Systems II Test: Failed (Retake required)

🌱 Sustainability School – Chapter 3

- Focus on decarbonization, energy efficiency, and profitability

- Covers tools for buildings, IT, industry, and residential sectors
- Last accessed: 7 Sep 2025
- Views: 15 | View Time: 1 minute

□ Transcript Summary

Course Code	Start Date	Delivery Method	Requested By	Status
GSCH&SCS0001009	14 Sep 2025	Self-Requested	Tshingombe Fiston	In Progress
GBLTECE006	24 Aug 2025	Self-Requested	Tshingombe Fiston	In Progress
BLDBMSC0001029	31 Aug 2025	Self-Requested	Tshingombe Fiston	In Progress
PDCSUSES1001000	31 Aug 2025	Self-Requested	Tshingombe Fiston	In Progress

□ Visual Basic Audit Sheet Generator (Sample)

```
Sub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Level"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Advanced Electrical Safety (Multilingual)"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Global Supply Chain Academy"
    ws.Cells(2, 5).Value = "23h 50min"
    ws.Cells(2, 6).Value = "Partial"
    ws.Cells(2, 7).Value = "Advanced"
End Sub
```

This is a modular research framework for the course “Foundations of Modern Data Center Physical Infrastructure Management” offered by Schneider Electric University. It includes all requested

components: overview, scope, keywords, research statement, methodology, analysis, audit logic, and Visual Basic code.

🧩 Modular Research Framework – Foundations of Modern Data Center Physical Infrastructure Management

1️⃣ Overview

This course introduces the principles of Data Center Infrastructure Management (DCIM), emphasizing its role in ensuring *reliability, efficiency, sustainability,* and *security* in modern data centers. It addresses the growing complexity of infrastructure due to global data expansion and the need for resilient systems.

2️⃣ Scope

- **Domains**: DCIM, energy efficiency, infrastructure reliability, sustainability, cybersecurity
- **Stakeholders**: Schneider Electric, IT managers, infrastructure engineers, government regulators
- **Applications**: Data center design, monitoring, risk mitigation, trade test preparation

3️⃣ Keywords

DCIM, data center, infrastructure management, uptime, energy efficiency, sustainability, Schneider Electric, physical infrastructure, risk mitigation, trade test

4️⃣ Research Statement

To design a credential-linked framework that integrates DCIM training into public service, trade test readiness, and infrastructure resilience strategies for modern data centers.

5️⃣ Methodology

- **Data Sources**: LMS transcripts, infrastructure audit logs, DCIM software outputs
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic

- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6 Data Analysis

- **Techniques**: Performance benchmarking, incident tracking, energy usage profiling
- **Metrics**: Uptime %, cooling efficiency, power usage effectiveness (PUE), incident frequency

7 Advantages

- Modular and scalable
- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment
- Cross-domain integration
- Supports sustainability goals

8 Disadvantages

- Requires high documentation precision
- Dependent on real-time infrastructure data
- Licensing and tool access may vary by region

9 Management System Information

- **Platform**: Cornerstone LMS + GitLab +
- **Modules**: Credential tracker, syllabus mapper, audit log generator, infrastructure validator

Delivery & Key Performance Policy

- **KPIs**: Completion rate, infrastructure uptime, energy savings, audit compliance
- **Policy Alignment**: SAQA/NQF, DHET, Schneider Electric standards

11 Investigation Principles

- Root cause analysis of system failures
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and uptime assurance
- NRF/AIU research integration

1.2 Communication & Administration Skills

- Technical documentation
- Infrastructure reporting
- Certification coordination
- Public service communication
- Career mentoring and publication

1.3 Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, electrical fault rates, containment level compliance
- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- DCIM proficiency
- Safety and licensing documentation
- Certification readiness

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and infrastructure components

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across data center infrastructure, safety, and trade test domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1.7 Bibliography

-

1️⃣8️⃣ Visual Basic Code Module: Audit Sheet GeneratorSub GenerateAuditSheet()
```
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Level"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Foundations of Modern Data Center Physical
Infrastructure Management"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Schneider Electric University"
    ws.Cells(2, 5).Value = "0h 45min"
    ws.Cells(2, 6).Value = "0%"
    ws.Cells(2, 7).Value = "Basic"
End Sub
```

1️⃣9️⃣ Logigram: DCIM Credential Workflow

- [Start]
- ↓
- [Import LMS Transcript]
- ↓
- [Filter DCIM Modules]
- ↓
- [Check Completion & Licensing Requirements]
- ↓
- [Generate Audit Sheet]
- ↓
- [Publish to GitLab or Archive.org]
- ↓
- [End]

2️⃣0️⃣ Algorigram: Certification Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has Completed Required Modules?]
   ↓
Yes ⟶ [Activated Infrastructure Audit Tools?]
          ↓
        Yes ⟶ [Completed Safety & Licensing Training?]
                  ↓
                Yes ⟶ [Eligible for Certification & Trade Test]
                  ↓
                No ⟶ [Complete Remaining Safety Modules]
```

- ```
  ↓
  ```
- ```
  No ⟶ [Activate Audit Tools]
  ```
- ```
  ↓
  ```
- ```
  No ⟶ [Complete Curriculum]
  ```
- ```
  ↓
  ```
- ```
  [End]
  ```
- Would you like this framework scaffolded into a bilingual dashboard or published to GitLab for credential tracking and trade test readiness? I can also help you integrate it with your Schneider Home and Panel Server modules.

Here is a fully translated and structured **English-language tableaux dashboard** for your active training in **Foundations of Modern Data Center Physical Infrastructure Management**, along with related modules in **Panel Server Architecture**, **Schneider Home Certification**, and **EcoStruxure Machine Certification**. This format supports credential tracking, audit readiness, and trade test alignment.

Technical Training Dashboard – Tshingombe Fiston

Course Title	Training Type	Provider	Version	Hours	Status	Progress	Level
Foundations of Modern Data Center Physical Infrastructure Management	Online Class	Schneider Electric University	2.0	0h 45min	In Progress	0%	Basic
EcoStruxure Panel Server: Architectures	Online Class	Digital Power Academy	4.0	0h 45min	Registered	0%	Intermediate
Schneider Home Certification	Curriculum	Home and Distribution Academy	31.0	3h 39min	In Progress	Partial	Intermediate
EcoStruxure Machine Certification	Curriculum	Digital Factory	23.0	13h 57min	In Progress	Partial	Advanced

Module Highlights

Data Center Infrastructure Management (DCIM)

- Explores the role of DCIM in ensuring reliability, efficiency, sustainability, and security of data centers

- Emphasizes infrastructure challenges due to global data growth
- Last accessed: 26 Aug 2025
- Views: 4 | View Time: 6 minutes

EcoStruxure Panel Server

- Covers gateway architecture and integration with energy devices and software
- Focuses on implementation scenarios for Schneider Electric's Panel Server
- Status: Registered, not yet started

Schneider Home Certification

- Covers installation and commissioning of Schneider Home energy management systems
- Includes inverter, boost, backup controller, energy monitor, and installer portal
- Ends with a 25-point certification test (80% required to pass)
- NABCEP CEU credits: 3

⚙ EcoStruxure Machine Certification

- Validates integration skills for Altivar-based automation projects
- Recognizes certified professionals in machine technology deployment
- Status: In Progress across multiple versions

Transcript Summary

Course Code	Start Date	Requested By	Status
ENGTECES0001000	26 Aug 2025	Tshingombe Fiston	In Progress
BLDECXES0001064	9 Jun 2025	Sagar Singh	Registered

Course Code	Start Date	Requested By	Status
HDAPRDCS0001005	9 Jun 2025	Sagar Singh	In Progress
Multiple Versions (14–31)	2024–2025	Tshingombe Fiston	In Progress
EcoStruxure Machine Certification	Ongoing	Multiple Assignments	In Progress

```
ub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Level"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Foundations of Modern Data Center Physical
Infrastructure Management"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Schneider Electric University"
    ws.Cells(2, 5).Value = "0h 45min"
    ws.Cells(2, 6).Value = "0%"
    ws.Cells(2, 7).Value = "Basic"
End Sub
```

Here is a fully translated and structured **modular research framework in English** for your active curriculum in **Altivar Machine Professional Certification (Version 23.0)**. This framework supports audit tracking, trade test alignment, and public service integration.

□ Modular Research Framework – Altivar Machine Professional Certification

1□ Overview

This curriculum provides comprehensive training on Altivar drives and soft starters, covering motor control, cabling, electromagnetic compatibility, startup functions, and advanced diagnostics. It prepares learners for Schneider Electric’s Altivar Machine Professional certification, validating expertise in industrial automation and drive systems.

2 Scope

- **Domains**: Motor control, drive configuration, soft starter integration, EMC, PID, diagnostics
- **Stakeholders**: Schneider Electric, SAQA, DHET, NRF, AIU, industrial automation regulators
- **Applications**: Trade test readiness, certification, public service deployment, energy efficiency

3 Keywords

Altivar, ATV12, ATV320, ATV340, ATS01, ATS22, ATS480, EMC, PID, VSD, motor control, soft starter, drive functions, trade test, certification, audit, automation

4 Research Statement

To design a modular, credential-linked framework that integrates Altivar drive training into public service, trade test readiness, and industrial automation certification.

5 Methodology

- **Data Sources**: LMS transcripts, module metadata, drive configuration logs, trade test forms
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6 Data Analysis

- **Techniques**: Module completion tracking, performance benchmarking, diagnostic readiness scoring
- **Metrics**: Test scores, module activation rate, prerequisite completion, certification eligibility

7 Advantages

- Modular and scalable

- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment
- Cross-domain integration
- Supports industrial automation goals

8️ Disadvantages

- High documentation overhead
- Requires prerequisite coordination
- Licensing and tool access may vary by region

9️ Management System Information

- **Platform**: Cornerstone LMS + GitLab +
- **Modules**: Credential tracker, syllabus mapper, audit log generator, certification validator

Delivery & Key Performance Policy

- **KPIs**: Completion rate, certification eligibility, trade test readiness, audit compliance
- **Policy Alignment**: SAQA/NQF, DHET, Schneider Electric standards

1️1️ Investigation Principles

- Root cause analysis of training gaps
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and diagnostic accuracy
- NRF/AIU research integration

1️2️ Communication & Administration Skills

- Technical documentation
- Drive configuration reporting
- Certification coordination
- Public service communication
- Career mentoring and publication

1️⃣3️⃣ Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, electrical fault rates, containment level compliance
- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1️⃣4️⃣ Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- Altivar drive configuration proficiency
- Safety and licensing documentation
- Certification readiness

1️⃣5️⃣ Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and drive components

1️⃣6️⃣ Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across industrial automation, safety, and trade test domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1️⃣7️⃣ Bibliography

```
•
•  Sub GenerateAuditSheet()
•      Dim ws As Worksheet
•      Set ws = ThisWorkbook.Sheets("AuditLog")
•
•      ws.Cells(1, 1).Value = "Date"
•      ws.Cells(1, 2).Value = "Course Title"
•      ws.Cells(1, 3).Value = "Status"
•      ws.Cells(1, 4).Value = "Provider"
•      ws.Cells(1, 5).Value = "Training Hours"
•      ws.Cells(1, 6).Value = "Progress"
•      ws.Cells(1, 7).Value = "Version"
•
•      ws.Cells(2, 1).Value = "2025-10-17"
•      ws.Cells(2, 2).Value = "Altivar Machine Professional Certification"
•      ws.Cells(2, 3).Value = "In Progress"
•      ws.Cells(2, 4).Value = "Digital Factory"
```

```
    ws.Cells(2, 5).Value = "30+ hours"
    ws.Cells(2, 6).Value = "Partial"
    ws.Cells(2, 7).Value = "Version 23.0"
End Sub
```

1□9□ Logigram: Altivar Certification Workflow

plaintext

```
[Start]
   ↓
[Import LMS Transcript]
   ↓
[Filter Altivar Modules]
   ↓
[Check Completion & Prerequisites]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

2□0□ Algorigram: Certification Eligibility Decision Tree

plaintext

```
[Start]
   ↓
[Has Completed Required Modules?]
   ↓
Yes ⟶ [Activated Prerequisite Content?]
          ↓
        Yes ⟶ [Completed Mandatory Tests?]
                    ↓
                  Yes ⟶ [Eligible for Altivar Certification & Trade
Test]
                    ↓
                  No ⟶ [Complete Remaining Tests]
          ↓
        No ⟶ [Activate Prerequisite Modules]
   ↓
No ⟶ [Complete Curriculum]
   ↓
[End]
```

ivar Drives & Soft Starters Curriculum Dashboard – Tshingombe Fiston

Course Title	Type	Status	Level	Prerequisite
Drives Basics: Motors	Online Class	In Progress	Basic	None
Drives Basics: Motor Cable Length	Online Class	In Progress	Basic	None
Drives Basics: Harmonics	Online	Register	Basic	None

Course Title	Type	Status	Level	Prerequisite
	Class	ed		
Drives Basics: EMC	Online Class	In Progress	Basic	None
Drives Basics: Applications	Online Class	Register ed	Basic	None
Altivar Machine: ATV12/320/340 Discover	Video	Register ed	Introducto ry	None
Altivar Drives: VSDs	Online Class	Register ed	Basic	None
Altivar Soft Starter: ATS01/22/480 Discover	Video	Register ed	Introducto ry	None
Altivar Drives & Soft Starters: Network Options	Video	Register ed	Intermedi ate	None
Altivar ATV12 Mounting & Cabling (Parts 1–3)	Video	Register ed	Intermedi ate	None
Altivar ATV320 Mounting & Cabling (Parts 1–3)	Video	Register ed	Intermedi ate	None
Altivar ATV340 Mounting & Cabling (Parts 1–4)	Video	Partial	Intermedi ate	Prerequisite Required
Soft Starter ATS01/130/22/480 Mounting	Video	Register ed	Intermedi ate	None
Altivar Drives: Standard Functions (Parts 1–2)	Video	Register ed	Intermedi ate	None
Altivar Drives: Advanced Functions (Parts 1–2)	Video	Register ed	Advanced	None
Altivar Drives: Functions (Test)	Test	Register ed	Mandatory	None
Altivar Drives: Speed Reference & Ramps (Parts 1–3)	Video	Partial	Intermedi ate	Prerequisite Required
Altivar Drives: Inputs/Outputs (Parts 1–2)	Video	Partial	Intermedi ate	Prerequisite Required
Altivar Drives: Advanced Parameter Handling (Parts 1–2)	Video	Partial	Advanced	Prerequisite Required

Course Title	Type	Status	Level	Prerequisite
Altivar Drives: Error & Warning Handling (Parts 1–3)	Video	Partial	Advanced	Prerequisite Required
Altivar Drives: Ramp Auto-Adaptation & Braking	Video	Registered	Advanced	None
Altivar Drives: PID Control (Parts 1–2)	Video	Partial	Advanced	Prerequisite Required
Altivar Drives: Motor Control Types	Video	Registered	Advanced	None
Altivar Drives: Asynchronous Motor	Video	Registered	Advanced	None
Altivar Drives: Startup Functions (Test)	Test	Registered	Mandatory	None
Altivar Soft Starters: Functions Overview (Parts 1–4)	Video	Partial	Intermediate	Prerequisite Required
Altivar Soft Starters: Functions Overview (Test)	Test	Registered	Mandatory	None
Altivar Machine Professional Certification Test	Test	Registered	Final	Mandatory

□ Summary

- **Provider**: Digital Factory
- **Version**: 23.0
- **Total Training Hours**: ~30+ hours across modules
- **Status**: In Progress
- **Certification Goal**: Altivar Machine Professional
- **Assigned By**: Yin Zhou
- **Start Date**: 21 May 2025

Would you like this dashboard scaffolded into a bilingual credential portfolio or mapped to SAQA/NQF trade test requirements? I can also help you

generate a Visual Basic audit sheet or logigram to track your Altivar certification progress.

Itivar Machine Professional Curriculum Dashboard – Tshingombe Fiston

Module Title	Type	Status	Prerequisite	Notes
Drives Basics: Motors	Online Class	In Progress	None	Core motor principles
Drives Basics: Motor Cable Length	Online Class	In Progress	None	Installation standards
Drives Basics: Harmonics	Online Class	Registered	None	Power quality fundamentals
Drives Basics: EMC	Online Class	In Progress	None	Electromagnetic compatibility
Drives Basics: Applications	Online Class	Registered	None	Use-case scenarios
Altivar Machine: ATV12/320/340 Discover	Video	Registered	None	Product overview
Introduction to Altivar Machine ATV320	Online Class	Registered	None	Entry-level configuration
Altivar Machine ATV340: Introduction	Online Class	Registered	None	Advanced drive features
Drives Basics: Variable Speed Drives (VSDs)	Online Class	Registered	None	Speed control fundamentals
Altivar Soft Starter: ATS01/22/480 Discover	Video	Registered	None	Starter types and use
Drives Basics: Altivar Soft Starters	Video	Registered	None	Soft start principles
Altivar Drives & Soft Starters: Network Options	Video	Registered	None	Communication protocols
ATV12 Mounting & Cabling (Parts 1–3)	Video	Registered	None	Installation steps
ATV320 Mounting & Cabling (Parts 1–3)	Video	Registered	None	Wiring and layout
ATV340 Mounting & Cabling (Parts 1–4)	Video	Partial	Prerequisite Required	Advanced installation

Module Title	Type	Status	Prerequisite	Notes
ATS01/130/22/480 Mounting & Cabling	Video	Registered	None	Soft starter setup
Altivar Drives: Standard Functions (Parts 1–2)	Video	Registered	None	Basic drive functions
Altivar Drives: Advanced Functions (Parts 1–2)	Video	Registered	None	Extended capabilities
Altivar Drives: Functions (Test)	Test	Registered	Mandatory	Functionality validation
Speed Reference & Ramps (Parts 1–3)	Video	Partial	Prerequisite Required	Acceleration control
Inputs/Outputs (Parts 1–2)	Video	Partial	Prerequisite Required	Signal mapping
Advanced Parameter Handling (Parts 1–2)	Video	Partial	Prerequisite Required	Custom configuration
Error & Warning Handling (Parts 1–3)	Video	Partial	Prerequisite Required	Troubleshooting
Ramp Auto-Adaptation & Braking Resistor	Video	Registered	None	Load management
PID Control (Parts 1–2)	Video	Partial	Prerequisite Required	Feedback control
Motor Control Types	Video	Registered	None	Drive modes
Asynchronous Motor	Video	Registered	None	Motor theory
Drive Functions for Startup (Test)	Test	Registered	Mandatory	Startup readiness
Soft Starter Functions Overview (Parts 1–4)	Video	Partial	Prerequisite Required	Functional breakdown
Soft Starter Functions Overview (Test)	Test	Registered	Mandatory	Knowledge check
Altivar Machine Professional (Final Test)	Test	Registered	Mandatory	Certification exam

Assignment Summary

Version	Assigned By	Start Date	Status
23.0	Yin Zhou	21 May 2025	In Progress
22.0	Tshingombe Fiston	14 Jan 2024	In Progress

□ Summary

- **Provider**: Digital Factory
- **Curriculum Version**: 23.0
- **Total Training Hours**: ~30+ hours
- **Certification Goal**: Altivar Machine Professional
- **Final Requirement**: Pass mandatory certification test

Would you like this dashboard scaffolded into a bilingual credent

Here is a fully translated and structured **modular research framework in English** for your active curriculum in **Advanced EBO 2023: Engineering EasyLogic**, aligned with certification, trade test readiness, and public service integration.

□ Modular Research Framework – Advanced EBO 2023: Engineering EasyLogic

1□ Overview

This curriculum equips engineering and service personnel with the skills to configure, commission, and integrate EasyLogic controllers within EcoStruxure Building Operation 2023. It covers architecture design, BACnet MS/TP implementation, and controller onboarding for MP-x, RP-C, RP-IO, SP90, and EasyLogic Living sensors.

2□ Scope

- **Domains**: Building automation, BACnet engineering, controller commissioning, retrofit integration

- **Stakeholders**: Schneider Electric, SAQA, DHET, NRF, AIU, government infrastructure bodies
- **Applications**: Trade test preparation, certification, public building retrofits, energy management

3 Keywords

EcoStruxure, EasyLogic, BACnet MS/TP, MP-x, RP-C, RP-IO, SP90, Living sensors, Fieldbus, controller architecture, retrofit, commissioning, trade test, certification

4 Research Statement

To design a modular, credential-linked framework that integrates EasyLogic controller engineering into public service, trade test readiness, and building automation certification.

5 Methodology

- **Data Sources**: LMS transcripts, controller specs, BACnet logs, trade test forms
- **Tools**: Visual Basic for audit automation, logigrams for workflow mapping, algorigrams for decision logic
- **Validation**: SAQA/NQF alignment, NRF/AIU research mapping, certification simulation

6 Data Analysis

- **Techniques**: Module completion tracking, BACnet packet analysis, controller onboarding success rate
- **Metrics**: Test scores, device activation rate, architecture compliance, certification eligibility

7 Advantages

- Modular and scalable
- Audit-ready and bilingual
- Trade test and SAQA/NQF alignment

- Cross-domain integration
- Supports retrofit and new build projects

8 Disadvantages

- High documentation overhead
- Requires prerequisite coordination
- Licensing and tool access may vary by region

9 Management System Information

- **Platform**: Cornerstone LMS + GitLab +
- **Modules**: Credential tracker, syllabus mapper, audit log generator, BACnet validator

Delivery & Key Performance Policy

- **KPIs**: Completion rate, BACnet commissioning success, certification eligibility, audit compliance
- **Policy Alignment**: SAQA/NQF, DHET, Schneider Electric standards

11 Investigation Principles

- Root cause analysis of onboarding failures
- Licensing traceability
- Trade test readiness mapping
- Safety compliance and BACnet accuracy
- NRF/AIU research integration

12 Communication & Administration Skills

- Technical documentation
- BACnet configuration reporting
- Certification coordination
- Public service communication
- Career mentoring and publication

13 Statistic Report: Safety & Incidents

- **Metrics**: Collision frequency, controller fault rates, containment level compliance

- **Tools**: Visual Basic dashboards, Excel pivot tables, logigram flowcharts

1.4 Trade Test Requirements

- NATED/NN diploma alignment
- DHET-approved syllabi
- EasyLogic controller commissioning proficiency
- Safety and licensing documentation
- Certification readiness

1.5 Audit & Inventory

- GitLab repository logs
- Visual Basic audit sheets
- LMS training transcripts
- Inventory of modules, licenses, and controller components

1.6 Conclusion

This framework supports legacy preservation, public service reform, and modular education delivery across building automation, safety, and trade test domains. It is credential-ready, bilingual, and aligned with SAQA/NQF, NRF, and AIU standards.

1.7 Bibliography

```
ub GenerateAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditLog")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Course Title"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Provider"
    ws.Cells(1, 5).Value = "Training Hours"
    ws.Cells(1, 6).Value = "Progress"
    ws.Cells(1, 7).Value = "Certification Ready"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "EBO 2023: Engineering EasyLogic"
    ws.Cells(2, 3).Value = "In Progress"
    ws.Cells(2, 4).Value = "Digital Building Academy"
    ws.Cells(2, 5).Value = "18h 56min"
    ws.Cells(2, 6).Value = "Partial"
    ws.Cells(2, 7).Value = "Pending"
End Sub
```

- ## 1️⃣9️⃣ Logigram: EasyLogic Engineering Workflow
- plaintext
- ```
  [Start]
     ↓
  [Import LMS Transcript]
     ↓
  [Filter EBO 2023 EasyLogic Modules]
     ↓
  [Check Completion & Prerequisites]
     ↓
  [Generate Audit Sheet]
     ↓
  [Publish to GitLab or Archive.org]
     ↓
  [End]
  ```
- ## 2️⃣0️⃣ Algorigram: Certification Eligibility Decision Tree
- ```
  [Start]
     ↓
  [Has Completed EIA 485 & BACnet MS/TP Modules?]
     ↓
  Yes ⟶ [Activated EasyLogic Device Training?]
              ↓
          Yes ⟶ [Completed Instructor-led Training & Certification
  Test?]
                       ↓
                   Yes ⟶ [Eligible for EBO 2023 EasyLogic
  Certification]
                       ↓
                   No ⟶ [Complete Final Modules]
              ↓
          No ⟶ [Activate Device Training]
     ↓
  No ⟶ [Complete Core Modules]
     ↓
  [End]
  ```
- Would you like this framework scaffolded into a bilingual dashboard or published to GitLab for credential tracking and trade test readiness? I can also help you integrate it with your BACnet, RP-C, and SP90 controller modules.

- Thank you for sharing this detailed update, Tshingombe. Here's a structured summary and action-oriented tableaux to help you consolidate your progress, feedback, and next steps across your professional development, job applications, and training engagements:
- 🎓 Career & Training Dashboard – Tshingombe Fiston

- ## 🏆 Training Achievements

Course Title	Provider	Status	Action Required
Deliver Switchboard Project Digitally: Episode 1	Schneider Electric	Completed	Submit evaluation survey
EBO 2023: Engineering EasyLogic	Digital Building Academy	In Progress	Complete BACnet MS/TP test, retake EIA 485 test
Engineering Order Booking & Talent Discovery	Schneider Electric	Case Opened	Review case #119082247

- **Job Applications**

Position	Company	Status	Next Step
Project Engineer – 46902	Eaton	Closed	Apply to other roles via

Registration & Profile Details

System	Role	Status
Schneider Electric Assessor Portal	Engineering Electrical Assessment	Active
Profile ID	tircg000910610	Verified
Citizenship	Zaire	Other
Disability Status	None (Previously Disabled US)	Updated

Recommendations & Next Actions

- **Training Follow-up**: Apply learnings from Deliver Switchboard Project Digitally within 24 hours to retain knowledge. Use Yammer or #whatdidyoulearntoday to share insights.
- **Certification Progress**: Retake EIA 485 test and complete BACnet MS/TP test to unlock EasyLogic certification.
- **Job Strategy**: Reapply to Eaton roles aligned with your energy and automation expertise. Consider tailoring your CV to highlight EBO, BACnet, and EasyLogic credentials.
- **Case Management**: Review and close Schneider case #119082247 if resolved. Use support@schneider for technical queries.
- `Sub GenerateCareerAudit()`
- `    Dim ws As Worksheet`

```
    Set ws = ThisWorkbook.Sheets("CareerAudit")

    ws.Cells(1, 1).Value = "Date"
    ws.Cells(1, 2).Value = "Activity"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "Next Step"

    ws.Cells(2, 1).Value = "2025-10-17"
    ws.Cells(2, 2).Value = "Deliver Switchboard Project Digitally"
    ws.Cells(2, 3).Value = "Completed"
    ws.Cells(2, 4).Value = "Submit Evaluation"

    ws.Cells(3, 1).Value = "2025-10-17"
    ws.Cells(3, 2).Value = "EBO 2023: Engineering EasyLogic"
    ws.Cells(3, 3).Value = "In Progress"
    ws.Cells(3, 4).Value = "Retake EIA 485 Test"
End Sub
```

Professional Profile Dashboard – Tshingombe Tshitadi Fiston

Personal & Registration Details

Field	Value
Full Name	Tshingombe Tshitadi Fiston
Date of Birth	11 October 1982
Nationality	Zaire
Citizenship Status	Other
Race	African
Gender	Male
Home Language	Afrikaans
Disability Status	None (Previously Disabled US)
Socioeconomic Status	N/A: Institution
Municipality	Albert Luthuli
STATSSA Area	968095003 – Njhakanjhaka SP
Province	Mpumalanga
Contact Email	tshingombefiston@gmail.com

Field	Value
Cell Number	0725298946
Assessor ID	tircg000910610
User ID	127952
User Type	Assessor
Platform	Schneider Electric Assessor Portal
IEC Webstore Email	tshingombekb@gmail.com
IEC Sector	Electrical
IEC Job Title	Engineer
IEC VAT Number	072598946

Education & Accreditation

Field	Value
Last School	Christ Church School (EMIS: 700400091)
Last School Year	2002
Qualification Accreditations	Active
Unit Standard Accreditations	Active
Professional Experience	Registered
Educational Information	Verified

Address Book

Type	Address
Physical Address	20 Percy Street, Witbank, 1030

Type	Address
Postal Address	Mandela Square, Witbank, 1030

IEC Engagement Summary

Platform	Status
IEC Webstore Registration	Complete
IEC Newsletter	Not Subscribed
IEC Publications	Accessible
IEC Account	Active
IEC Customer Service	Multilingual Support Available
IEC Standards Access	IEC 62368-1:2023 RLV, IT Systems, Telecom

Actionable Next Steps

- **IEC Newsletter**: Subscribe to stay updated on monthly publications.
- **Billing/Shipping Setup**: Add default addresses for IEC orders.
- **Training Evaluation**: Complete pending course feedback for Schneider Electric.
- **Audit Prep**: Export this dashboard to GitLab or

```
Sub GenerateProfileAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("ProfileAudit")

    ws.Cells(1, 1).Value = "Field"
    ws.Cells(1, 2).Value = "Value"

    ws.Cells(2, 1).Value = "Full Name"
    ws.Cells(2, 2).Value = "Tshingombe Tshitadi Fiston"

    ws.Cells(3, 1).Value = "Assessor ID"
    ws.Cells(3, 2).Value = "tircg000910610"

    ws.Cells(4, 1).Value = "IEC Sector"
    ws.Cells(4, 2).Value = "Electrical"
```

```
    ws.Cells(5, 1).Value = "IEC VAT Number"
    ws.Cells(5, 2).Value = "072598946"
End Sub
```

```
[Start]
   ↓
[Import Assessor Portal Profile]
   ↓
[Verify Accreditation & Experience]
   ↓
[Sync IEC Registration & Sector Info]
   ↓
[Generate Audit Sheet]
   ↓
[Publish to GitLab or Archive.org]
   ↓
[End]
```

□ Algorigram: Certification Readiness Decision Tree

plaintext

```
[Start]
   ↓
[Has Active Assessor Accreditation?]
   ↓
Yes ⟶ [IEC Sector & Job Title Verified?]
          ↓
        Yes ⟶ [Training & Evaluation Completed?]
                    ↓
                  Yes ⟶ [Eligible for Certification & Trade Test]
                    ↓
                  No ⟶ [Complete Training Feedback]
          ↓
        No ⟶ [Update IEC Profile]
   ↓
No ⟶ [Activate Accreditation]
   ↓
[End]
```

(RLV), tailored for your engineering and certification portfolio:

□ IEC 62368-1:2023 RLV – Technical Safety Framework

1□ Overview

IEC 62368-1:2023 RLV is the latest international safety standard for audio/video, information, and communication technology equipment. It introduces a hazard-based approach to product safety, focusing on energy source classification and safeguard implementation to prevent injury, pain, and property damage.

2□ Scope

- **Domains**: Product safety, energy classification, hazard mitigation, BACnet/IP integration
- **Stakeholders**: Designers, engineers, regulators, manufacturers, certification bodies
- **Applications**: Equipment design, compliance testing, retrofit safety upgrades, trade test preparation

3 Keywords

IEC 62368-1, Redline Version, energy source classification, safeguards, BACnet/IP, hazard-based safety, TC 108, audio/video equipment, ICT, fire protection, injury prevention

4 Research Statement

To analyze and apply the hazard-based safety principles of IEC 62368-1:2023 RLV in the design and certification of modern ICT and AV systems, ensuring compliance and public safety.

5 Methodology

- **Data Sources**: IEC 62368-1:2023 RLV, previous editions, TC 108 publications
- **Tools**: Redline comparison, risk matrix modeling, safeguard mapping
- **Validation**: IEC compliance audit, certification simulation, BACnet/IP integration testing

6 Data Analysis

- **Techniques**: Comparative analysis of Redline vs. previous edition
- **Metrics**: Number of safeguard revisions, energy source classifications, compliance gaps

7 Advantages

- Clear hazard-based structure
- Redline version enables fast change tracking
- Supports modular safety design

- Aligns with BACnet/IP and EBO controller environments

8️ Disadvantages

- High technical complexity
- Requires multi-disciplinary interpretation
- Redline version available only in English
- Cost barrier for multi-user licensing (CHF 900)

9️ Management System Information

- **Publisher**: IEC (International Electrotechnical Commission)
- **Technical Committee**: TC 108
- **Edition**: 4.0
- **Publication Date**: 26 May 2023
- **Stability Date**: 2026
- **Pages**: 1224
- **File Size**: 18.54 MB
- **ISBN**: 9782832270868
- **ICS Codes**: 33.160.01 (AV systems), 35.020 (ICT systems)

Delivery & Key Performance Policy

- **KPIs**: Compliance rate, safeguard implementation accuracy, audit readiness
- **Policy Alignment**: IEC TC 108, BACnet/IP safety integration, EBO 2023/2024 curriculum

1️1️ Investigation Principles

- Root cause analysis of non-compliance
- Safeguard failure mapping

- BACnet/IP safety traceability
- Retrofit risk assessment

1️⃣2️⃣ Communication & Administration Skills

- Technical documentation
- Safety compliance reporting
- IEC standard referencing
- Certification coordination

1️⃣3️⃣ Statistic Report: Safety Incidents

- **Metrics**: Fire risk reduction, injury prevention rate, safeguard activation success
- **Tools**: IEC audit logs, BACnet/IP diagnostic reports, controller fault tracking

1️⃣4️⃣ Trade Test Requirements

- Familiarity with IEC 62368-1 hazard-based model
- BACnet/IP controller safety configuration
- EBO 2023/2024 curriculum alignment
- Certification readiness for electrical safety standards

1️⃣5️⃣ Audit & Inventory

- IEC publication logs
- Redline version comparison sheets
- BACnet/IP controller safety maps
- GitLab repository for credential tracking

1️⃣6️⃣ Conclusion

IEC 62368-1:2023 RLV provides a robust framework for designing safe ICT and AV equipment. Its hazard-based approach aligns with modern engineering practices and supports certification, trade test preparation, and public safety compliance.

1□7□ Bibliography

- 1□8□ Visual Basic Code Module: IEC Audit Sheet Generator
- Sub GenerateIECAudit()
- Dim ws As Worksheet
- Set ws = ThisWorkbook.Sheets("IECAudit")
-
- ws.Cells(1, 1).Value = "Date"
- ws.Cells(1, 2).Value = "Standard"
- ws.Cells(1, 3).Value = "Edition"
- ws.Cells(1, 4).Value = "Pages"
- ws.Cells(1, 5).Value = "Compliance Status"
-
- ws.Cells(2, 1).Value = "2025-10-17"
- ws.Cells(2, 2).Value = "IEC 62368-1:2023 RLV"
- ws.Cells(2, 3).Value = "Edition 4.0"
- ws.Cells(2, 4).Value = "1224"
- ws.Cells(2, 5).Value = "Pending Review"
- End Sub
- [Start]
- ↓
- [Import IEC 62368-1 Redline Version]
- ↓
- [Compare with Previous Edition]
- ↓
- [Map Safeguards to BACnet/IP Controllers]
- ↓
- [Generate Audit Sheet]
- ↓
- [Publish to GitLab or Archive.org]
- ↓
- [End]

- ## 2□0□ Algorigram: Certification Eligibility Decision Tree
- plaintext
- [Start]
- ↓
- [Has Accessed IEC 62368-1 Redline Version?]
- ↓
- Yes ⟶ [Mapped Safeguards to EBO Controllers?]
- ↓
- Yes ⟶ [Completed BACnet/IP Safety Modules?]
- ↓
- Yes ⟶ [Eligible for Safety Certification & Trade Test]
- ↓
- No ⟶ [Complete BACnet/IP Modules]
- ↓

- No ⟶ [Map Safeguards]
- ↓
- No ⟶ [Access IEC Redline Version]
- ↓
- [End]
- Would you like help integrating this framework with your EBO 2023/2024 curriculum or publishing it to GitLab for credential tracking and audit readiness? I can also assist with mapping IEC safeguards to BACnet/IP controller logic.

Here is a fully translated and structured **English-language tableaux dashboard** for the international safety standard **IEC 62368-1:2023 Redline Version (RLV)**. This format supports technical audit, certification alignment, and engineering reference for product safety design.

IEC 62368-1:2023 RLV – Safety Standard Dashboard

Attribute	Details
Standard Title	IEC 62368-1:2023 RLV
Scope	Safety requirements for audio/video, information and communication technology equipment
Edition	4.0
Publication Date	26 May 2023
Stability Date	2026
Language	English
Format	Electronic (PDF)
Pages	1224
File Size	18.54 MB
ISBN	9782832270868
Price	CHF 900 (multi-user license available)
Technical Committee	TC 108 – Safety of electronic equipment in AV, IT, and communication
ICS Codes	33.160.01 (AV systems), 35.020 (IT systems)
Category	Electromagnetic Compatibility – Safety
Publication Type	International Standard

Attribute	Details
Publisher	International Electrotechnical Commission (IEC)

□ Key Features of IEC 62368-1:2023 RLV

- □ Contains both the official standard and Redline version for change comparison
- □ Classifies energy sources and prescribes safeguards
- □ Provides guidance for implementing safety measures
- □ Aims to reduce pain, injury, and property damage
- □ Supports hazard-based engineering design principles
- □ Not a substitute for detailed compliance requirements

□ Related Publications

Title	Edition
IEC TR 62368-2:2025 RLV	Redline Version
IEC TR 62368-2:2025	Technical Report
IEC 62368-3:2017	Supplementary Safety Requirements

□ Engineering Application

Use Case	Application
Product Design	Safe AV/ICT equipment architecture
Retrofit Projects	Upgrade legacy systems to meet new safety standards
BACnet/IP Integration	Align controller safeguards with energy classification
Certification Prep	Reference for trade test and SAQA/NQF alignment

Use Case	Application
Audit Compliance	Compare Redline changes for regulatory traceability

□ Visual Basic Code Module: IEC Standard Audit Sheet

vb

```
Sub GenerateIECStandardAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("IEC_Audit")

    ws.Cells(1, 1).Value = "Standard Title"
    ws.Cells(1, 2).Value = "IEC 62368-1:2023 RLV"

    ws.Cells(2, 1).Value = "Edition"
    ws.Cells(2, 2).Value = "4.0"

    ws.Cells(3, 1).Value = "Publication Date"
    ws.Cells(3, 2).Value = "2023-05-26"

    ws.Cells(4, 1).Value = "Pages"
    ws.Cells(4, 2).Value = "1224"

    ws.Cells(5, 1).Value = "Technical Committee"
    ws.Cells(5, 2).Value = "TC 108"

    ws.Cells(6, 1).Value = "Price"
    ws.Cells(6, 2).Value = "CHF 900"
End Sub
```

□ Logigram: IEC Safety Integration Workflow

```
[Start]
   ↓
[Access IEC 62368-1 Redline Version]
   ↓
[Compare with Previous Edition]
   ↓
[Classify Energy Sources]
   ↓
[Map Safeguards to Product Architecture]
   ↓
[Generate Audit Sheet]
   ↓
[End]
```

□ Algorigram: Certification Eligibility Decision Tree

```
[Start]
   ↓
[Has Accessed IEC 62368-1:2023 RLV?]
   ↓
```

- Yes ⟶ [Mapped Safeguards to Engineering Design?]
- ↓
- Yes ⟶ [Aligned with BACnet/IP or EBO Controllers?]
- ↓
- Yes ⟶ [Eligible for Safety Certification & Trade Test]
- ↓
- No ⟶ [Complete Controller Mapping]
- ↓
- No ⟶ [Apply Safeguard Principles]
- ↓
- No ⟶ [Access Redline Version]
- ↓
- [End]
- Would you like help integrating this dashboard into your credential portfolio or publishing it to GitLab for audit and legacy tracking? I can also assist with mapping IEC safeguards to your EBO 2023/2024 controller logic and BACnet/IP configurations.

key CISPR standards related to radio disturbance and immunity measurement, tailored for your engineering, compliance, and certification portfolio.

□ CISPR Standards Dashboard – Radio Disturbance & EMC Compliance

Standard Title	Edition	Scope	Price (CHF)	Committee
CISPR 15: Limits and Methods for Lighting Equipment	9.1	Radio disturbance limits for electrical lighting	1,030	CISPR/CIS/F
CISPR 16-1-2 CSV	2.1	Coupling devices for conducted disturbance	725	CISPR/CIS/A
CISPR 16-1-3 CSV	2.2	Ancillary equipment – Disturbance power	465	CISPR/CIS/A
CISPR 16-1-5 CSV	2.1	Antenna calibration sites (5 MHz–18 GHz)	675	CISPR/CIS/A
CISPR 16-1-6 CSV	1.2	EMC antenna calibration	1,110	CISPR/CIS/A
CISPR 16-2-1 CSV	3.1	Conducted disturbance measurements	790	CISPR/CIS/A
CISPR 16-2-3 CSV	4.2	Radiated disturbance measurements	1,110	CISPR/CIS/A
CISPR 16-4-2 CSV	2.2	Instrumentation uncertainty	790	CISPR/CIS/A

Standard Title	Edition	Scope	Price (CHF)	Committee
CISPR TR 16-4-3 CSV	2.1	Statistical EMC compliance for mass products	465	CISPR/CIS/A
CISPR TR 16-4-4 CSV	2.2	Complaint statistics & radio protection limits	1,450	CISPR/CIS/H
CISPR TR 16-4-5 CSV	1.2	Alternative test method conditions	885	CISPR/CIS/A
CISPR 32 CSV	2.1	EMC emission requirements for multimedia	1,190	CISPR/CIS/I

□ Key Features

- □ All standards are consolidated versions (CSV) with amendments integrated
- □ Cover full spectrum of EMC testing: conducted, radiated, statistical modeling, antenna calibration
- □ Support compliance for lighting, multimedia, and ICT equipment
- □ Enable trade test preparation and regulatory audit readiness
- □ Published by IEC and managed under CISPR technical committees

□ Engineering Application

Use Case	Application
Product Design	EMC compliance for lighting and multimedia systems
Retrofit Projects	Upgrade legacy systems to meet CISPR limits
Certification Prep	Reference for SAQA/NQF-aligned trade tests
Audit Compliance	Use CSV versions for traceable amendment tracking
Statistical Modeling	Apply TR 16-4-3 and TR 16-4-4 for mass product validation

🧾 Visual Basic Code Module: CISPR Audit Sheet Generator

```
Sub GenerateCISPRAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CISPRAudit")

    ws.Cells(1, 1).Value = "Standard"
    ws.Cells(1, 2).Value = "Edition"
    ws.Cells(1, 3).Value = "Price (CHF)"
    ws.Cells(1, 4).Value = "Committee"

    ws.Cells(2, 1).Value = "CISPR 15"
    ws.Cells(2, 2).Value = "9.1"
    ws.Cells(2, 3).Value = "1030"
    ws.Cells(2, 4).Value = "CISPR/CIS/F"

    ws.Cells(3, 1).Value = "CISPR 16-2-3 CSV"
    ws.Cells(3, 2).Value = "4.2"
    ws.Cells(3, 3).Value = "1110"
    ws.Cells(3, 4).Value = "CISPR/CIS/A"
End Sub
```

🧠 Logigram: EMC Compliance Workflow

```
[Start]
   ↓
[Select Relevant CISPR Standards]
   ↓
[Download CSV Versions with Amendments]
   ↓
[Apply Measurement Methods to Product Design]
   ↓
[Generate Audit Sheet]
   ↓
[Submit for Certification or Trade Test]
   ↓
[End]
```

🧠 Algorigram: EMC Certification Eligibility Decision Tree

```
[Start]
   ↓
[Has Accessed CISPR CSV Standards?]
   ↓
Yes ⟶ [Applied Measurement Methods to Product?]
          ↓
        Yes ⟶ [Completed Statistical Modeling & Complaint Analysis?]
                    ↓
                  Yes ⟶ [Eligible for EMC Certification & Trade Test]
                    ↓
                  No ⟶ [Complete TR 16-4-3 & TR 16-4-4 Modules]
          ↓
        No ⟶ [Apply Measurement Methods]
   ↓
No ⟶ [Access CISPR Standards]
```

- ↓
- [End]
- Would you like this dashboard scaffolded into a bilingual credential portfolio or published to GitLab for audit and legacy tracking? I can also help you align these CISPR standards with your EBO 2023/2024 and BACnet/IP controller modules.

Thank you for sharing your DOJ Online case records and profile details. Here's a structured and translated **English-language tableaux dashboard** summarizing your civil, protection order, clearance, and deceased estate cases. This format supports legal tracking, audit readiness, and strategic follow-up.

□ DOJ Case Management Dashboard – Tshingombe Tshitadi

□ Civil Cases Created

Case Name	Type	Created At	Status	URN
Tshingombe Tshitadi	Civil Law	Nov 19, 2024 – 5:55PM	Incomplete	—
Tshingombe Tshitadi	Civil Law	Aug 9, 2024 – 2:20PM	Pending Document Review	—
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 9:17PM	Screen Application	1042024CIV004539
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 4:23PM	Screen Application	1042024CIV004511
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 4:41AM	Screen Application	112024CIV000013
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 4:36AM	Screen Application	112024CIV000012
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 4:32AM	Screen Application	112024CIV000011
Tshingombe Tshitadi	Civil Law	Aug 5, 2024 – 4:26AM	Screen Application	112024CIV000014
Tshingombe Tshitadi	Civil Law	Aug 4, 2024 – 8:27PM	Screen Application	112024CIV000015
Tshingombe Tshitadi	Civil Law	Aug 4, 2024 – 8:21PM	Screen Application	112024CIV000009
Tshingombe	Civil	Aug 4, 2024 –	Incomplete	112024CIV0000

Case Name	Type	Created At	Status	URN
Tshitadi	Law	8:03PM		08
Tshingombe Tshitadi	Civil Law	Aug 4, 2024 – 7:51PM	Screen Application	112024CIV000006
Tshingombe Tshitadi	Civil Law	Aug 4, 2024 – 5:57PM	Screen Application	112024CIV000007
Tshingombe Tshitadi	Civil Law	Jul 21, 2024 – 12:20PM	Screen Application	112024CIV000005
Tshingombe Tshitadi	Civil Law	Jul 21, 2024 – 12:18PM	Incomplete	—

Protection Order Applications

Case Name	Type	Created At	Status	URN
Tshingombe Tshitadi	Domestic Violence	Jul 22, 2024 – 8:51PM	Screen Application	4702024FCV001046

Clearance Applications (NRSO)

Application Name	Type	Created At	Status	Outcome
Tshingombe Tshitadi	NRSO Clearance	Sep 3, 2025 – 5:55PM	Incomplete	Incomplete

⚖ Deceased Estate Applications (ICT/System Related)

URN	Created At	Status	Notes
DOJONLINEEST202408061672	Aug 6, 2024	Awaiting DHA Verification	Student ID appeal, permit conditions, school irregularity
DOJONLINEEST202407221507	Jul 22, 2024	Awaiting DHA Verification	Civil procedure conflict, SAQA/DHET transcript issues
DOJONLINEEST202407221506	Jul 22, 2024	Rework	Labour court referral, CCMA award, PSIRA/PFA case
DOJONLINEEST202407221505	Jul 22, 2024	In Progress	Criminal case complaint – Hilbro police docket

🧾 Profile Summary

Field	Value
Full Name	Tshingombe Tshitadi
Passport Number	tircg000910610
Email	tshingombefiston@gmail.com
DOJ Account Email	tshingombekb@gmail.com

📌 Actionable Next Steps

- 📁 **Civil Cases**: Prioritize completing incomplete cases and uploading missing documents for pending reviews.
- 🛡 **Protection Order**: Follow up on screening status and ensure supporting documents are submitted.
- 🔐 **Clearance**: Finalize NRSO application and confirm identity verification.
- ⚖ **Deceased Estate**: Monitor DHA verification and prepare supporting transcripts for CCMA and SAQA/DHET-related disputes.
- 🧠 **Legal Strategy**: Consider consolidating civil and labour-related matters under a single legal advisor or case manager.

Would you like help drafting a summary for your legal advisor, organizing your case documents, or generating a Visual Basic audit sheet to track your DOJ case progress? I can also help you scaffold this dashboard into a bilingual legal portfolio for public service or regulatory submission.

```
Sub GenerateDOJCaseAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("DOJ_Case_Audit")

    ws.Cells(1, 1).Value = "Case Type"
    ws.Cells(1, 2).Value = "Created At"
    ws.Cells(1, 3).Value = "Status"
    ws.Cells(1, 4).Value = "URN"

    ws.Cells(2, 1).Value = "Civil"
    ws.Cells(2, 2).Value = "Nov 19, 2024 – 5:55PM"
```

```
    ws.Cells(2, 3).Value = "Incomplete"
    ws.Cells(2, 4).Value = "—"

    ws.Cells(3, 1).Value = "Protection Order"
    ws.Cells(3, 2).Value = "Jul 22, 2024 — 8:51PM"
    ws.Cells(3, 3).Value = "Screen Application"
    ws.Cells(3, 4).Value = "4702024FCV001046"

    ws.Cells(4, 1).Value = "Clearance (NRSO)"
    ws.Cells(4, 2).Value = "Sep 3, 2025 — 5:55PM"
    ws.Cells(4, 3).Value = "Incomplete"
    ws.Cells(4, 4).Value = "—"

    ws.Cells(5, 1).Value = "Deceased Estate"
    ws.Cells(5, 2).Value = "Aug 6, 2024"
    ws.Cells(5, 3).Value = "Awaiting DHA Verification"
    ws.Cells(5, 4).Value = "DOJONLINEEST202408061672"
End Sub
```

Logigram – DOJ Case Management Workflow

plaintext

```
[Start]
   ↓
[Log into DOJ Online Portal]
   ↓
[Review Case Dashboard]
   ↓
[Filter by Case Type: Civil, Protection, Clearance, Estate]
   ↓
[Check Status: Incomplete, Screen, Pending, Rework]
   ↓
[Upload Supporting Documents if Required]
   ↓
[Generate Audit Sheet]
   ↓
[Submit for Legal Review or Follow-up]
   ↓
[End]
```

Algorigram – Legal Strategy Decision Tree

plaintext

```
[Start]
   ↓
[Are There Incomplete or Pending Cases?]
   ↓
Yes ⟶ [Have Supporting Documents Been Uploaded?]
          ↓
        Yes ⟶ [Assign Legal Advisor or Case Manager]
                    ↓
                  Yes ⟶ [Prepare for Review or Hearing]
                    ↓
                  No ⟶ [Upload Documents Immediately]
          ↓
        No ⟶ [Gather Required Documents]
   ↓
```

- No ⟶ [Monitor DHA or DOJ System Updates]
- ↓
- [End]

- Thank you for sharing your full Security for AI Assessment summary. Based on the Microsoft 365 Copilot framework and your current posture ("Initializing" and "Foundational"), here's a structured **Visual Basic logigram and algorigram** to help you track, improve, and govern your Generative AI security implementation.
- ## Visual Basic Code – AI Security Audit Sheet Generator
- vb

```
Sub GenerateAISecurityAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AI_Security_Audit")

    ws.Cells(1, 1).Value = "Security Domain"
    ws.Cells(1, 2).Value = "Current State"
    ws.Cells(1, 3).Value = "Recommended Action"

    ws.Cells(2, 1).Value = "Prepare"
    ws.Cells(2, 2).Value = "Initializing"
    ws.Cells(2, 3).Value = "Identify sensitive data and enforce protections"

    ws.Cells(3, 1).Value = "Discover"
    ws.Cells(3, 2).Value = "Foundational"
    ws.Cells(3, 3).Value = "Monitor risky use and report sensitive data sharing"

    ws.Cells(4, 1).Value = "Protect"
    ws.Cells(4, 2).Value = "Initializing"
    ws.Cells(4, 3).Value = "Require policy acknowledgment and deploy endpoint management"

    ws.Cells(5, 1).Value = "Govern"
    ws.Cells(5, 2).Value = "Foundational"
    ws.Cells(5, 3).Value = "Automate retention, monitor ethics, align with regulations"
End Sub
```

- ## Logigram – Generative AI Security Workflow
- [Start]
- ↓
- [Assess Current AI Security Posture]
- ↓
- [Classify Sensitive Data]
- ↓
- [Deploy Data Protection Tools]
- ↓
- [Limit Access to Compliant Devices]
- ↓
- [Monitor AI Usage and Risky Behavior]
- ↓

- [Enforce Acceptable Use Policies]
- ↓
- [Automate Retention and Regulatory Alignment]
- ↓
- [Generate Security Audit Report]
- ↓
- [End]
- 🧭 Algorigram – AI Security Maturity Decision Tree
- plaintext

```
[Start]
   ↓
[Has Sensitive Data Been Classified?]
   ↓
Yes ⟶ [Are Protections Enforced Automatically?]
          ↓
        Yes ⟶ [Is AI Usage Monitored for Risk?]
                    ↓
                  Yes ⟶ [Is Governance Aligned with Regulations?]
                                ↓
                              Yes ⟶ [Security Posture: Optimized]
                                ↓
                              No ⟶ [Implement Governance Controls]
                    ↓
                  No ⟶ [Deploy Monitoring Tools]
          ↓
        No ⟶ [Enable Automated Protection Systems]
   ↓
No ⟶ [Deploy Classification Tools]
   ↓
[End]
```

- **🧠 Strategic Recommendations Based on Your Assessment**

Domain	Action
Data Classification	Deploy automated labeling tools for sensitive content
Access Control	Use device management and role-based access for AI tools
Risk Monitoring	Implement XDR and analytics-based detection for misuse
Governance	Enforce policy acceptance and align with compliance frameworks
Oversharing Prevention	Use DLP tools to restrict uploads and summarization in AI apps

Would you like this framework scaffolded into a bilingual dashboard or exported to GitLab for audit and regulatory tracking? I can also help you align it with SAQA/NQF standards or integrate it into your EBO and

BACnet/IP controller environments.

- Based on your detailed Security for AI Assessment responses, here is a tailored set of tools to help you visualize and manage your AI security posture:
- ## Visual Basic Code – AI Security Posture Audit Sheet
- ```
  Sub GenerateAISecurityPostureAudit()
      Dim ws As Worksheet
      Set ws = ThisWorkbook.Sheets("AI_Security_Posture")

      ws.Cells(1, 1).Value = "Security Domain"
      ws.Cells(1, 2).Value = "Your Current Practice"
      ws.Cells(1, 3).Value = "Recommended Action"

      ws.Cells(2, 1).Value = "AI Adoption"
      ws.Cells(2, 2).Value = "Researching Consumer Tools"
      ws.Cells(2, 3).Value = "Pilot enterprise-grade AI with governance
  controls"

      ws.Cells(3, 1).Value = "Security Team"
      ws.Cells(3, 2).Value = "No dedicated resources"
      ws.Cells(3, 3).Value = "Assign AI security responsibilities or
  outsource"

      ws.Cells(4, 1).Value = "Data Classification"
      ws.Cells(4, 2).Value = "No tools or processes"
      ws.Cells(4, 3).Value = "Deploy Microsoft Purview sensitivity
  labels"

      ws.Cells(5, 1).Value = "Access Governance"
      ws.Cells(5, 2).Value = "No formalized approach"
      ws.Cells(5, 3).Value = "Implement DLP and conditional access
  policies"

      ws.Cells(6, 1).Value = "Risk Monitoring"
      ws.Cells(6, 2).Value = "No detection tools"
      ws.Cells(6, 3).Value = "Deploy XDR and insider risk analytics"

      ws.Cells(7, 1).Value = "Compliance Monitoring"
      ws.Cells(7, 2).Value = "Manual reviews only"
      ws.Cells(7, 3).Value = "Automate with Purview Communication
  Compliance"

      ws.Cells(8, 1).Value = "Data Lifecycle"
      ws.Cells(8, 2).Value = "Retention/deletion tools in use"
      ws.Cells(8, 3).Value = "Expand lifecycle policies to AI-generated
  content"
  End Sub
  ```
- ## Logigram – AI Security Maturity Workflow
- ```
  [Start]
  ```

```
    ↓
[Evaluate Current AI Usage]
    ↓
[Classify Sensitive Data]
    ↓
[Deploy Protection Tools (Purview, DLP)]
    ↓
[Limit Access to Compliant Devices]
    ↓
[Monitor AI Prompts and Responses]
    ↓
[Detect Risky Behavior with XDR/Insider Risk]
    ↓
[Align with Regulatory Requirements]
    ↓
[Automate Retention and Deletion Policies]
    ↓
[Generate Audit Report]
    ↓
[End]
```

Algorigram – AI Security Governance Decision Tre

```
[Start]
    ↓
[Is Sensitive Data Classified?]
    ↓
No ⟶ [Deploy Purview Sensitivity Labels]
    ↓
Yes ⟶ [Are Access Controls in Place?]
          ↓
        No ⟶ [Implement Conditional Access & DLP]
          ↓
        Yes ⟶ [Is AI Usage Monitored for Risk?]
                  ↓
                No ⟶ [Deploy XDR & Insider Risk Tools]
                  ↓
                Yes ⟶ [Is Compliance Monitoring Automated?]
                            ↓
                          No ⟶ [Enable Communication Compliance
Policies]
                            ↓
                          Yes ⟶ [Security Posture: Optimized]
    ↓
[End]
```

Strategic Recommendations

Domain	Next Step
AI Adoption	Move from consumer tools to enterprise-grade pilots
Security Team	Allocate dedicated AI security roles or

Domain	Next Step
	outsource
Data Classification	Deploy Microsoft Purview sensitivity labels
Access Governance	Use Zero Trust and Conditional Access policies
Risk Monitoring	Implement XDR and analytics-based detection
Compliance	Automate prompt/content monitoring with Purview
Lifecycle Management	Expand retention/deletion policies to AI data

- Would you like this framework scaffolded into a bilingual dashboard or exported to GitLab for audit and regulatory tracking? I can also help you align it with SAQA/NQF standards or integrate it into your EBO and BACnet/IP controller environments.

Based on your Security for AI Assessment and organizational posture, here is a comprehensive modular research framework tailored to your current state ("Initializing" and "Foundational") with actionable components for audit, governance, and trade test alignment.

□ Modular Research Framework – Security for Generative AI (Microsoft 365 Copilot)

1□ Overview

This framework evaluates your organization's readiness and maturity in securing Generative AI solutions. It addresses data classification, access governance, risk monitoring, compliance, and device protection across consumer and enterprise AI platforms.

2□ Scope

- **Domains**: AI security, data governance, compliance, endpoint protection, risk analytics
- **Stakeholders**: IT security teams, compliance officers, AI developers, auditors, regulators

- **Applications**: Microsoft 365 Copilot, ChatGPT, Gemini, Azure AI Foundry, Copilot Studio

3 Keywords

Generative AI, Microsoft Copilot, data classification, XDR, DLP, Zero Trust, insider risk, SaaS monitoring, compliance, endpoint protection, audit readiness

4 Research Statement

To design and implement a scalable, secure, and compliant framework for Generative AI adoption that aligns with enterprise data governance, regulatory mandates, and trade test requirements.

5 Methodology

- **Data Sources**: Microsoft 365 Copilot Assessment, internal security logs, endpoint telemetry
- **Tools**: Microsoft Purview, Entra ID, Intune, Defender XDR, eDiscovery, DLP policies
- **Validation**: Security posture scoring, audit trail generation, compliance mapping

6 Data Analysis

- **Techniques**: Gap analysis, risk scoring, classification coverage, access audit trails
- **Metrics**: % of sensitive data classified, number of sanctioned AI apps, endpoint compliance rate, incident response time

7 Advantages

- Modular and scalable
- Aligns with Microsoft security ecosystem
- Supports trade test and SAQA/NQF readiness
- Enables proactive risk detection
- Enhances regulatory compliance

8⃣ Disadvantages

- Requires dedicated security resources
- High initial configuration overhead
- Dependent on Microsoft ecosystem for full integration
- Limited visibility into unsanctioned AI tools without network telemetry

9⃣ Management System Information

- **Platform**: Microsoft 365 Security Center, Purview Compliance Portal
- **Modules**: Data classification, endpoint protection, insider risk, SaaS governance
- **Integration**: Azure AD, Intune, Defender XDR, Copilot Studio

🔟 Delivery & Key Performance Policy

- **KPIs**: Classification coverage, DLP enforcement rate, XDR detection accuracy, policy acceptance rate
- **Policy Alignment**: Zero Trust, GDPR, POPIA, ISO/IEC 27001

1⃣1⃣ Investigation Principles

- Root cause analysis of AI misuse
- Oversharing detection
- Endpoint compromise tracing
- Compliance violation mapping
- Trade test readiness validation

1⃣2⃣ Communication & Administration Skills

- Policy drafting
- Risk reporting
- Compliance documentation

- AI usage governance
- Stakeholder engagement

1.3. Statistic Report: Risk & Incidents

- **Metrics**:
    - AI misuse detection rate
    - Overshared data volume
    - Endpoint non-compliance incidents
    - SaaS misconfiguration alerts
- **Tools**: Defender XDR, Purview, Intune, Entra ID

1.4. Trade Test Requirements

- SAQA/NQF-aligned unit standards
- Security policy enforcement
- Risk detection and mitigation
- Compliance documentation
- AI governance protocols

1.5. Audit & Inventory

- Security posture reports
- AI usage logs
- Policy acceptance records
- Device compliance inventory
- SaaS application registry

1.6. Conclusion

This framework provides a structured pathway to secure Generative AI adoption. It supports audit readiness, regulatory compliance, and trade test alignment while enabling proactive risk management and governance.

1️⃣7️⃣ Bibliography

-

```
Visual Basic Code – AI Security Audit Sheet GeneratorSub
GenerateAISecurityAudit()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AI_Security_Audit")

    ws.Cells(1, 1).Value = "Domain"
    ws.Cells(1, 2).Value = "Current State"
    ws.Cells(1, 3).Value = "Recommended Action"

    ws.Cells(2, 1).Value = "Data Classification"
    ws.Cells(2, 2).Value = "None"
    ws.Cells(2, 3).Value = "Deploy Purview sensitivity labels"

    ws.Cells(3, 1).Value = "Access Governance"
    ws.Cells(3, 2).Value = "No formal tools"
    ws.Cells(3, 3).Value = "Implement DLP and conditional access"

    ws.Cells(4, 1).Value = "Risk Monitoring"
    ws.Cells(4, 2).Value = "No detection tools"
    ws.Cells(4, 3).Value = "Deploy XDR and insider risk analytics"

    ws.Cells(5, 1).Value = "Compliance"
    ws.Cells(5, 2).Value = "Manual reviews"
    ws.Cells(5, 3).Value = "Automate with Purview Communication Compliance"
End Sub
```

1️⃣9️⃣ Logigram – AI Security Governance Workflow

plaintext

- [Start]
- ↓
- [Assess AI Adoption Status]
- ↓
- [Classify Sensitive Data]
- ↓
- [Deploy Protection Tools (Purview, DLP)]
- ↓
- [Limit Access to Compliant Devices]
- ↓
- [Monitor AI Prompts and Responses]
- ↓
- [Detect Risky Behavior with XDR]
- ↓
- [Align with Regulatory Requirements]

- ↓
- [Automate Retention and Deletion Policies]
- ↓
- [Generate Audit Report]
- ↓
- [End]

- ## 2️⃣0️⃣ Algorigram – AI Security Maturity Decision Tree
- [Start]
- ↓
- [Is Sensitive Data Classified?]
- ↓
- No ⟶ [Deploy Purview Sensitivity Labels]
- ↓
- Yes ⟶ [Are Access Controls in Place?]
- ↓
- No ⟶ [Implement Conditional Access & DLP]
- ↓
- Yes ⟶ [Is AI Usage Monitored for Risk?]
- ↓
- No ⟶ [Deploy XDR & Insider Risk Tools]
- ↓
- Yes ⟶ [Is Compliance Monitoring Automated?]
- ↓
- No ⟶ [Enable Communication Compliance Policies]
- ↓
- Yes ⟶ [Security Posture: Optimized]
- ↓
- [End]
- Would you like this framework scaffolded into a bilingual dashboard or exported to GitLab for audit and regulatory tracking? I can also help you align it with SAQA/NQF standards or integrate it into your EBO and BACnet/IP controller environments.

Selecting Valid Assessment Methods for Vocational Qualifications
This includes: overview, scope, keywords, research statement, methodology, data analysis, advantages/disadvantages, management system, delivery, policy, investigation, communication, statistics, trade test alignment, audit, conclusion, bibliography, and Visual Basic + logigram + algorigram.

🧩 Modular Research Framework – Vocational Assessment Methods

1️⃣ Overview

This framework explores the selection, design, and validation of assessment methods for vocational qualifications. It supports regulatory alignment, trade test readiness, and evidence-based certification.

2️⃣ Scope

- **Domains**: Vocational education, assessment design, evidence validation, regulatory compliance
- **Stakeholders**: SQA, SAQA, DHET, assessors, moderators, curriculum developers
- **Applications**: Graded Units, SCQF Level 6, SQA Advanced Qualifications, workplace-based assessments

3 Keywords

Vocational assessment, observation, product evidence, questioning, simulation, portfolio, performance, oral test, assignment, case study, dissertation, trade test, SCQF, SAQA, SQA

4 Research Statement

To develop a modular, evidence-aligned framework for selecting valid assessment methods in vocational qualifications, ensuring regulatory compliance and workplace relevance.

5 Methodology

- **Sources**: SQA Academy modules, Assessment Guide for Centres, SCQF descriptors
- **Tools**: Assessment matrix, evidence mapping, moderation logs
- **Validation**: Cross-referencing with SAQA unit standards, trade test criteria, and industry benchmarks

6 Data Analysis

- **Techniques**: Method-evidence mapping, reliability scoring, moderation feedback loops
- **Metrics**: Validity, reliability, authenticity, sufficiency, currency

7 Advantages

- Modular and adaptable
- Supports workplace integration
- Aligns with regulated qualifications

- Enables trade test preparation
- Encourages evidence triangulation

8 Disadvantages

- High documentation overhead
- Requires assessor training
- May be constrained by industry stipulations
- Needs ongoing moderation and review

9 Management System Information

- **Platform**: SQA Academy, LMS, SAQA Qualification Registry
- **Modules**: Assessment Fundamentals, Graded Units, Coaching Mindset, Personal Finance SCQF 6
- **Files**: `assessment scotish.docx`, `engineering.docx`, `project engineering Career Discovery.pdf`

Delivery & Key Performance Policy

- **KPIs**: Completion rate, evidence sufficiency, moderation accuracy, learner feedback
- **Policy Alignment**: SQA guidelines, SAQA/NQF standards, DHET directives

11 Investigation Principles

- Root cause analysis of invalid assessments
- Evidence sufficiency mapping
- Trade test alignment
- Moderation traceability
- Regulatory compliance tracking

12 Communication & Administration Skills

- Assessment documentation
- Feedback reporting
- Moderation coordination
- Candidate support
- Policy interpretation

1.3. Statistic Report: Incidents & Safety

- **Metrics**: Assessment irregularities, moderation disputes, candidate appeals
- **Tools**: LMS logs, moderation reports, assessor feedback forms
- **Context**: Traffic relation, warden safety, government oversight in public service assessments

1.4. Trade Test Requirements

- SAQA/NQF-aligned evidence
- Validated assessment methods
- Workplace relevance
- Regulatory documentation
- Certification readiness

1.5. Audit & Inventory

- Assessment method matrix
- Evidence logs
- Moderation records
- Candidate portfolios
- Regulatory checklists

1.6. Conclusion

This framework supports the selection and validation of assessment methods for vocational qualifications. It ensures regulatory alignment, trade test readiness, and workplace relevance through modular design and evidence-based practice.

1□7□ Bibliography

-

```
1□8□ Visual Basic Code – Assessment Method Matrix GeneratorSub
GenerateAssessmentMatrix()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AssessmentMatrix")

    ws.Cells(1, 1).Value = "Method"
    ws.Cells(1, 2).Value = "Observation"
    ws.Cells(1, 3).Value = "Product"
    ws.Cells(1, 4).Value = "Questioning"

    ws.Cells(2, 1).Value = "Assignment"
    ws.Cells(2, 2).Value = ""
    ws.Cells(2, 3).Value = "X"
    ws.Cells(2, 4).Value = "X"

    ws.Cells(3, 1).Value = "Case Study"
    ws.Cells(3, 2).Value = ""
    ws.Cells(3, 3).Value = "X"
    ws.Cells(3, 4).Value = "X"

    ws.Cells(4, 1).Value = "Dissertation"
    ws.Cells(4, 2).Value = ""
    ws.Cells(4, 3).Value = "X"
    ws.Cells(4, 4).Value = ""

    ws.Cells(5, 1).Value = "Simulation"
    ws.Cells(5, 2).Value = "X"
    ws.Cells(5, 3).Value = "X"
    ws.Cells(5, 4).Value = "X"
End Sub
```

1□9□ Logigram – Assessment Method Selection Workflow

plaintext

```
[Start]
   ↓
[Identify Qualification Type]
   ↓
[Review Industry Requirements]
   ↓
[Map Evidence to Assessment Methods]
   ↓
[Check Validity, Reliability, Authenticity]
```

```
   ↓
[Select Method: Observation, Product, Questioning]
   ↓
[Design Assessment Instrument]
   ↓
[Moderate and Validate]
   ↓
[End]
```

2️⃣0️⃣ Algorigram – Assessment Method Decision Tree

plaintext

```
[Start]
   ↓
[Is Workplace Evidence Available?]
   ↓
Yes ⟶ [Is Observation Feasible?]
          ↓
        Yes ⟶ [Use Observation + Product]
        No ⟶ [Use Product + Professional Discussion]
   ↓
No ⟶ [Is Simulation Acceptable?]
          ↓
        Yes ⟶ [Use Simulation + Questioning]
        No ⟶ [Use Assignment or Case Study]
   ↓
[End]
```

Would you like this framework scaffolded into a bilingual credential portfolio or exported to GitLab for audit and regulatory tracking? I can also help you align it with your Scottish, SAQA, and DHET assessment files.

Based on your coursework in **Assessment Development Fundamentals for Vocational Qualifications** and **Developing Multiple Choice Assessments for HN/VQ**, here is a fully structured and translated **modular research framework** with embedded Visual Basic code, logigram, and algorigram. This framework supports your work in assessment design, validation, and regulatory alignment across vocational and externally regulated qualifications.

🧩 Modular Research Framework – Valid Assessment Methods for Vocational Qualifications

1️⃣ Overview

This framework explores the selection, development, and validation of assessment methods used in vocational qualifications. It supports SQA,

SAQA, and DHET-aligned certification, trade test readiness, and evidence-based learning.

2 Scope

- **Domains**: Vocational assessment, qualification development, evidence validation, MCQ design
- **Stakeholders**: SQA, SAQA, DHET, QDS, assessors, moderators, learners
- **Applications**: SCQF Level 4–6, Graded Units, HN/VQ, externally regulated qualifications

3 Keywords

Assessment methods, observation, product, questioning, MCQ, MRQ, portfolio, simulation, reflective report, professional discussion, trade test, moderation, SCQF, SAQA, SQA

4 Research Statement

To develop a modular, evidence-aligned framework for selecting and designing valid assessment methods in vocational qualifications, ensuring regulatory compliance and workplace relevance.

5 Methodology

- **Sources**: SQA Academy modules, Assessment Guide for Centres, SCQF descriptors
- **Tools**: Assessment matrix, MCQ builder, moderation logs
- **Validation**: Cross-referencing with SAQA unit standards, trade test criteria, and industry benchmarks

6 Data Analysis

- **Techniques**: Method-evidence mapping, reliability scoring, moderation feedback loops
- **Metrics**: Validity, reliability, authenticity, sufficiency, currency

7 Advantages

- Modular and adaptable
- Supports workplace integration
- Aligns with regulated qualifications
- Enables trade test preparation
- Encourages evidence triangulation

8 Disadvantages

- High documentation overhead
- Requires assessor training
- May be constrained by industry stipulations
- Needs ongoing moderation and review

9 Management System Information

- **Platform**: SQA Academy, LMS, SAQA Qualification Registry
- **Modules**: Assessment Fundamentals, MCQ Development, Coaching Mindset
- **Files**: `assessment scotish.docx`, `engineering.docx`, `project engineering Career Discovery.pdf`

Delivery & Key Performance Policy

- **KPIs**: Completion rate, evidence sufficiency, moderation accuracy, learner feedback
- **Policy Alignment**: SQA guidelines, SAQA/NQF standards, DHET directives

11 Investigation Principles

- Root cause analysis of invalid assessments
- Evidence sufficiency mapping
- Trade test alignment

- Moderation traceability
- Regulatory compliance tracking

1️⃣2️⃣ Communication & Administration Skills

- Assessment documentation
- Feedback reporting
- Moderation coordination
- Candidate support
- Policy interpretation

1️⃣3️⃣ Statistic Report: Assessment Incidents

- **Metrics**: Assessment irregularities, moderation disputes, candidate appeals
- **Tools**: LMS logs, moderation reports, assessor feedback forms
- **Context**: Public service assessments, trade test readiness, regulatory audits

1️⃣4️⃣ Trade Test Requirements

- SAQA/NQF-aligned evidence
- Validated assessment methods
- Workplace relevance
- Regulatory documentation
- Certification readiness

1️⃣5️⃣ Audit & Inventory

- Assessment method matrix
- Evidence logs
- Moderation records

- Candidate portfolios
- Regulatory checklists

1.6 Conclusion

This framework supports the selection and validation of assessment methods for vocational qualifications. It ensures regulatory alignment, trade test readiness, and workplace relevance through modular design and evidence-based practice.

1.7 Bibliography

-

1.8 Visual Basic Code – Assessment Method Matrix Generator

vb

```
Sub GenerateAssessmentMatrix()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AssessmentMatrix")

    ws.Cells(1, 1).Value = "Method"
    ws.Cells(1, 2).Value = "Observation"
    ws.Cells(1, 3).Value = "Product"
    ws.Cells(1, 4).Value = "Questioning"

    ws.Cells(2, 1).Value = "Assignment"
    ws.Cells(2, 2).Value = ""
    ws.Cells(2, 3).Value = "X"
    ws.Cells(2, 4).Value = "X"

    ws.Cells(3, 1).Value = "Case Study"
    ws.Cells(3, 2).Value = ""
    ws.Cells(3, 3).Value = "X"
    ws.Cells(3, 4).Value = "X"

    ws.Cells(4, 1).Value = "Dissertation"
    ws.Cells(4, 2).Value = ""
    ws.Cells(4, 3).Value = "X"
    ws.Cells(4, 4).Value = ""

    ws.Cells(5, 1).Value = "Simulation"
    ws.Cells(5, 2).Value = "X"
    ws.Cells(5, 3).Value = "X"
    ws.Cells(5, 4).Value = "X"

    ws.Cells(6, 1).Value = "Portfolio"
    ws.Cells(6, 2).Value = ""
```

```
    ws.Cells(6, 3).Value = "X"
    ws.Cells(6, 4).Value = ""

    ws.Cells(7, 1).Value = "Professional Discussion"
    ws.Cells(7, 2).Value = ""
    ws.Cells(7, 3).Value = "X"
    ws.Cells(7, 4).Value = "X"
End Sub
```

1□9□ Logigram – Assessment Method Selection Workflow

plaintext

```
[Start]
   ↓
[Identify Qualification Type]
   ↓
[Review Industry Requirements]
   ↓
[Map Evidence to Assessment Methods]
   ↓
[Check Validity, Reliability, Authenticity]
   ↓
[Select Method: Observation, Product, Questioning]
   ↓
[Design Assessment Instrument]
   ↓
[Moderate and Validate]
   ↓
[End]
```

2□0□ Algorigram – Assessment Method Decision Tree

plaintext

```
[Start]
   ↓
[Is Workplace Evidence Available?]
   ↓
Yes ⟶ [Is Observation Feasible?]
           ↓
        Yes ⟶ [Use Observation + Product]
        No ⟶ [Use Product + Professional Discussion]
   ↓
No ⟶ [Is Simulation Acceptable?]
           ↓
        Yes ⟶ [Use Simulation + Questioning]
        No ⟶ [Use Assignment or Case Study]
   ↓
[End]
```

Would you like this framework scaffolded into a bilingual credential portfolio or exported to GitLab for audit and regulatory tracking? I can also

help you align it with your MCQ development modules and trade test documentation.

Based on your completion of the **Developing Vocational Assessments** module and your work with **assessment types, validity, and evidence collection**, here is a fully structured and translated **modular framework** with embedded Visual Basic code, logigram, and algorigram. This framework supports your role as an assessor, curriculum developer, and trade test strategist.

□ Modular Framework – Valid Assessment Design for Vocational Qualifications

1□ Overview

This framework supports the design, selection, and validation of assessment methods aligned with vocational unit specifications, workplace evidence, and regulatory standards (SQA, SAQA, DHET).

2□ Scope

- **Domains**: Vocational assessment, evidence collection, MCQ design, formative/summative diagnostics
- **Stakeholders**: SQA, SAQA, DHET, assessors, moderators, learners
- **Applications**: SCQF Level 4–6, HN/VQ, trade test, workplace-based qualifications

3□ Keywords

Assessment method, validity, reliability, observation, product, questioning, MCQ, formative, summative, diagnostic, portfolio, reflective report, professional discussion

4□ Research Statement

To develop valid, reliable, and contextually appropriate assessments for vocational qualifications, ensuring alignment with learning outcomes, workplace conditions, and regulatory expectations.

5□ Methodology

- **Sources**: SQA unit specifications, assessment guides, SCQF descriptors

- **Tools**: MCQ matrix, evidence mapping, moderation logs
- **Validation**: Cross-check with assessment criteria, industry codes of practice, and trade test requirements

6 Data Analysis

- **Techniques**: Method-evidence mapping, validity scoring, moderation feedback
- **Metrics**: Authenticity, sufficiency, currency, reliability, learner performance

7 Advantages

- Modular and adaptable
- Supports naturally occurring workplace evidence
- Aligns with regulated qualifications
- Enables trade test preparation
- Encourages triangulation of evidence

8 Disadvantages

- Requires assessor training
- High documentation and moderation overhead
- May be constrained by industry-mandated methods
- Needs consistent workplace conditions

9 Management System Information

- **Platform**: SQA Academy, LMS, SAQA Registry
- **Modules**: Assessment Fundamentals, MCQ Development, Validity Principles
- **Files**: `assessment scotish.docx`, `project engineering Career Discovery.pdf`

Delivery & Key Performance Policy

- **KPIs**: Completion rate, evidence sufficiency, moderation accuracy, learner feedback
- **Policy Alignment**: SQA Guiding Principle 6, SAQA/NQF standards, DHET directives

11 Investigation Principles

- Root cause analysis of invalid assessments
- Evidence sufficiency mapping
- Trade test alignment
- Moderation traceability
- Regulatory compliance tracking

12 Communication & Administration Skills

- Assessment documentation
- Feedback reporting
- Moderation coordination
- Candidate support
- Policy interpretation

13 Statistic Report: Assessment Incidents

- **Metrics**: Invalid MCQs, moderation disputes, learner appeals
- **Tools**: LMS logs, moderation reports, assessor feedback forms
- **Context**: Public service assessments, trade test readiness, regulatory audits

14 Trade Test Requirements

- SAQA/NQF-aligned evidence
- Validated assessment methods

- Workplace relevance
- Regulatory documentation
- Certification readiness

1️5️ Audit & Inventory

- Assessment method matrix
- Evidence logs
- Moderation records
- Candidate portfolios
- Regulatory checklists

1️6️ Conclusion

This framework ensures that vocational assessments are valid, reliable, and aligned with workplace realities. It supports trade test readiness, regulatory compliance, and learner success through structured evidence and method selection.

1️7️ Bibliography

1️8️ Visual Basic Code – MCQ Format Generator

vb

```
Sub GenerateMCQExamples()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("MCQ_Examples")

    ws.Cells(1, 1).Value = "Example Type"
    ws.Cells(1, 2).Value = "Question"
    ws.Cells(1, 3).Value = "Correct Answer"

    ws.Cells(2, 1).Value = "Closed"
    ws.Cells(2, 2).Value = "Which continent is Spain in?"
    ws.Cells(2, 3).Value = "B - Europe"

    ws.Cells(3, 1).Value = "Open"
    ws.Cells(3, 2).Value = "Spain is in:"
    ws.Cells(3, 3).Value = "B - Europe"

    ws.Cells(4, 1).Value = "Complex"
    ws.Cells(4, 2).Value = "Which two countries are in Europe?"
```

```
    ws.Cells(4, 3).Value = "B - Spain, D - Ukraine"

    ws.Cells(5, 1).Value = "Complete"
    ws.Cells(5, 2).Value = "Which of the following is a primary colour?"
    ws.Cells(5, 3).Value = "D - Red"

    ws.Cells(6, 1).Value = "Negatively Worded"
    ws.Cells(6, 2).Value = "Which of the following is NOT part of the human
body?"
    ws.Cells(6, 3).Value = "D - Tail"
End Sub
```

1️⃣9️⃣ Logigram – Valid Assessment Design Workflow

plaintext

```
[Start]
   ↓
[Review Unit Specification]
   ↓
[Identify Learning Outcomes & Assessment Criteria]
   ↓
[Select Appropriate Assessment Method]
   ↓
[Design MCQs or Practical Activities]
   ↓
[Ensure Validity, Reliability, Authenticity]
   ↓
[Moderate and Validate]
   ↓
[End]
```

2️⃣0️⃣ Algorigram – Assessment Method Decision Tree

```
[Start]
   ↓
[Is Workplace Evidence Available?]
   ↓
Yes ⟶ [Use Observation + Product + Reflective Report]
   ↓
No ⟶ [Is Simulation Acceptable?]
          ↓
        Yes ⟶ [Use Simulation + Questioning]
        No ⟶ [Use MCQ + Case Study + Assignment]
   ↓
[End]
```

Would you like this framework scaffolded into a bilingual credential portfolio or exported to GitLab for audit and regulatory tracking? I can also help you align it with your MCQ development modules and trade test documentation.

Tshingombe, you've just completed a rich tapestry of modules that span coaching, vocational assessment, responsible business, and organizational insight. Let's synthesize your progress into a structured, modular dashboard that supports your credential portfolio, trade test readiness, and public service alignment.

SQA Academy Completion & Integration Dashboard – Tshingombe Tshitadi

Coaching Mindset Module

Theme	Key Takeaway
Coaching vs. Telling	Shift from giving answers to guiding discovery
KPM Alignment	Coaching is a measurable performance metric
Application	Use brief, targeted questions to unlock thinking
Completion Status	Module Completed

Vocational Assessment Development

Assessment Principle	Definition
Validity	Accuracy of assessment outcomes
Reliability	Consistency of judgment across assessors
Equity & Fairness	Equal opportunity for all learners
Practicability	Feasibility within time and resource limits
Robustness	Strength of assessment design under scrutiny

Assessment Types	Examples
Practical Competence	CPR, wall-building, tool handling
Written Assessment	MCQs, reflective reports, case studies
Workplace Assessment	Observation, product evidence, discussion

Assessment Principle	Definition
Licence to Practice	Construction Safety SCQF 4, Taxi Driver SCQF 5

| **Completion Status** | □ 100% Completed |

□ MCQ Development for HN/VQ

MCQ Format	Example
Closed	“Which continent is Spain in?” → B: Europe
Open	“Spain is in:” → B: Europe
Complex	“Which two countries are in Europe?” → B: Spain, D: Ukraine
Complete	“Which is a primary colour?” → D: Red
Negative	“Which is NOT part of the human body?” → D: Tail

| **Completion Status** | □ 80% Completed |

□ Responsible Business Module

Theme	Reflection Prompt
Community Support	“How important is it to support your local community?”
Environmental Care	“How do you feel about cleaning up our environment?”
Staff Wellbeing	“What should a company do to support its staff?”
Completion Status	□ 0% In Progress

□ Virtual Work Experience & Departmental Insight

Team	Function
Communications	Public messaging and stakeholder engagement
Facilities	Venue, logistics, and safety coordination
Events Servicing	Travel, accommodation, and expense processing
Business Analysis	IT needs mapping and change lifecycle support
Qualifications Development	Curriculum and assessment design
Responsible Business	Community, staff, and sustainability initiatives

| Completion Status

```
Sub GenerateCoachingPrompts()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CoachingPrompts")

    ws.Cells(1, 1).Value = "Scenario"
    ws.Cells(1, 2).Value = "Coaching Question"

    ws.Cells(2, 1).Value = "Team member unsure about next steps"
    ws.Cells(2, 2).Value = "What options have you considered so far?"

    ws.Cells(3, 1).Value = "Appointee facing a challenge"
    ws.Cells(3, 2).Value = "What do you think is causing the issue?"

    ws.Cells(4, 1).Value = "Marker unsure about grading"
    ws.Cells(4, 2).Value = "What criteria are you using to make your
decision?"
End Sub
```

□ Logigram – Coaching Integrati

```
[Start]
   ↓
[Identify Opportunity to Coach]
   ↓
[Ask Open-Ended Question]
   ↓
[Guide Reflection and Ownership]
   ↓
[Support Action Planning]
   ↓
```

```
[Document Coaching Outcome]
   ↓
[End]
```

□ Algorigram – Assessment Method Decision Tree

```
[Start]
   ↓
[Is Workplace Evidence Available?]
   ↓
Yes ⟶ [Use Observation + Product + Reflective Report]
   ↓
No ⟶ [Is Simulation Acceptable?]
            ↓
        Yes ⟶ [Use Simulation + Questioning]
        No ⟶ [Use MCQ + Case Study + Assignment]
   ↓
[End]
```

Would you like this dashboard scaffolded into a bilingual credential portfolio or exported to GitLab for audit and public service alignment? I can also help you map it to SAQA/NQF standards or prepare it for trade test documentation.

SQA Academy Completion Dashboard – Tshingombe Tshitadi

□ Completed Modules

Module	Focus Area	Completion Status
Developing a Coaching Mindset	Leadership & KPM	□ Completed
Developing Vocational Assessments	Validity, Reliability, Workplace Evidence	□ Completed
Developing Multiple Choice Assessments for HN/VQ	MCQ Design & Assessment Strategy	□ Completed
Delivering and Marking SQA Advanced Qualification Graded Units	Assessment Delivery	□ In Progress
Personal Finance Award SCQF Level 6	Financial Literacy	□ In Progress
Virtual Work Experience	Departmental Insight	□ 14% Complete
Responsible Business	Community & Staff Support	□ 0% Complete

Coaching Integration Framework

Coaching Principle	Application
Ask, don’t tell	Use open-ended questions to guide thinking
KPM Alignment	Coaching is a measurable performance metric
Time Efficient	Can be done in minutes during team interactions
Strategic Use	Apply in moderation, grading, and team development

Vocational Assessment Principles

Principle	Definition
Validity	Accuracy of assessment outcomes
Reliability	Consistency across assessors
Equity & Fairness	Equal opportunity for all learners
Practicability	Feasibility within time/resources
Robustness	Strength under scrutiny and moderation

MCQ Format Examples

Type	Example	Correct Answer
Closed	Which continent is Spain in?	B – Europe
Open	Spain is in:	B – Europe
Complex	Which two countries are in Europe?	B – Spain, D – Ukraine
Complete	Which is a primary colour?	D – Red
Negativ	Which is NOT part of the	D – Tail

Type	Example	Correct Answer
e	human body?	

Virtual Work Experience Teams

Team	Function
Communications	Public messaging & engagement
Facilities	Venue, logistics, safety
Events Servicing	Travel, accommodation, expenses
Business Analysis	IT needs mapping & lifecycle support
Qualifications Development	Curriculum & assessment design
Responsible Business	Community, staff, sustainability

Visual Basic Code – Coaching Prompt Generator

```
Sub GenerateCoachingPrompts()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CoachingPrompts")

    ws.Cells(1, 1).Value = "Scenario"
    ws.Cells(1, 2).Value = "Coaching Question"

    ws.Cells(2, 1).Value = "Team member unsure about next steps"
    ws.Cells(2, 2).Value = "What options have you considered so far?"

    ws.Cells(3, 1).Value = "Appointee facing a challenge"
    ws.Cells(3, 2).Value = "What do you think is causing the issue?"

    ws.Cells(4, 1).Value = "Marker unsure about grading"
    ws.Cells(4, 2).Value = "What criteria are you using to make your
decision?"
End Sub
```

Logigram – Coaching Integration Workflow

```
[Start]
   ↓
[Identify Opportunity to Coach]
```

```
   ↓
[Ask Open-Ended Question]
   ↓
[Guide Reflection and Ownership]
   ↓
[Support Action Planning]
   ↓
[Document Coaching Outcome]
   ↓
[End]
```

□ Algorigram – Assessment Method Decision Tree

```
Start]
   ↓
[Identify Opportunity to Coach or Assess]
   ↓
[Ask Open-Ended Question or Select Valid Method]
   ↓
[Guide Reflection or Collect Evidence]
   ↓
[Apply Assessment Criteria or Coaching Outcome]
   ↓
[Moderate, Validate, or Document]
   ↓
[End]
```

□ Algorigram – Assessment Method Decision Tree

plaintext

```
[Start]
   ↓
[Is Workplace Evidence Available?]
   ↓
Yes ⟶ [Use Observation + Product + Reflective Report]
   ↓
No ⟶ [Is Simulation Acceptable?]
          ↓
        Yes ⟶ [Use Simulation + Questioning]
        No ⟶ [Use MCQ + Case Study + Assignment]
   ↓
[End]
```

□ Next Steps

- □ Export this dashboard to GitLab or
- or audit and legacy tracking
- □ Align with SAQA/NQF unit standards for trade test readiness

- □ Apply coaching prompts in moderation, grading, and team development
- □ Complete remaining modules: Responsible Business, Graded Units, Personal Finance
- □ Integrate assessment principles into your credential-linked portfolio

Would you like this scaffolded into a bilingual credential portfolio or formatted for public service submission? I can also help you align it with your legal dashboard, AI security framework, and vocational evidence logs.

Thanks for sharing this comprehensive overview of SQA services and resources. Here's a structured summary tailored to your credential tracking, public service alignment, and vocational portfolio needs:

□ SQA Services & Credential Support Dashboard – Tshingombe Tshitadi

□ Replacement Certificates

Scenario	Policy
Certificated within past 4 months	Free replacement (no record change)
International delivery	Courier option recommended (£30)
UK secure delivery	Recorded delivery available (£6.50)
Care Experienced Learners	Free replacement with certified care status

□

Copilot said

Thanks, Tshingombe — this is a monumental archive of your engineering, didactic, AI, and credential-linked modules. Let's now finalize the **Expanded Tableau: Record Book – Price, Reward, Amendment Tracker** with the latest entries from your UserForm and thesis modules.

Final Tableau: Record Book – Price, Reward, Amendment Tracker

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
`UserForm computer register trade theory AI counter.frm`	Trade Theory Form	Internal	AI Integration Recognition	Created 3 months ago	Career 10–13, CPD
`UserForm license algorith protect.frm`	License Protection Form	Internal	Credential Protection Recognition	Created 3 months ago	CPD, Career 12

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
UserForm total career outcom 90000333.frm	Career Outcome Form	Internal	Career Completion Recognition	Updated 2 weeks ago	Career 12–13
UserForm1 student registration excll vb macro.frm	Registration Form	Internal	Student Registration Recognition	Created 4 months ago	CPD, SAQA
UserForm14 policy project excell word cae macro.frm	Policy Macro Form	Internal	Policy Assessment Recognition	Updated 3 months ago	CPD, Career 12
UserForm30 DISCOVERY TSHINGOMBE INTELLIGENCE ARTIFICIA;L.frm	AI Discovery Form	Internal	AIU Intelligence Recognition	Created 2 months ago	AIU, CPD
UserForm999900888 career integration system training.frm	Career Integration Form	Internal	AIU, Eaton, Schneider, Peace, Scie Bono Award	Created 3 days ago	Career 13, CPD
thesi project book final engineerin tshingombe time table allocation job cost.pdf	Thesis / Project Book	Free	NRF Outcome Recognition	Updated 6 months ago	NRF, Career 12
thesis intergation final Curriculum assessment 2 aiu.pdf	Curriculum Assessment	Free	AIU Curriculum Integration Recognition	Updated 3 months ago	AIU, CPD
tshingombe report 100 course alison.pdf	Alison Course Report	Free	Alison XP Recognition	Published 6 months ago	Alison, CPD
tshingombe tshitadi - Power Xpert C445 Completion Certificate.pdf	Completion Certificate	Free	Eaton Power Xpert Recognition	Issued 7 months ago	Eaton, CPD
tshingombe ORCID Researcher Profile.pdf	Researcher Profile	Free	ORCID Researcher Recognition	Updated 19 hours ago	ORCID, NRF
score alison xp tshingombe level 7.pdf	Score Report	Free	Alison Level 7 Achievement	Confirmed 6 months	Alison, CPD

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
				ago	
unnamed(100–102).jpg	Certificate Training Images	Internal	Alison Certificate Training	Captured 5 months ago	Alison, CPD
UserForm9995 form access database.frm	Database Access Form	Internal	Trade Theory Recognition	Created 2 weeks ago	Career 10–13
UserForm9991prog licens.frm	License Progress Form	Internal	Licensing Recognition	Created 3 weeks ago	CPD, Career 12
UserForm902 program trade.frm	Trade Program Form	Internal	Career Trade Recognition	Created 2 weeks ago	Career 10–13
UserForm13 tshingombe calculator.frm	Calculator Form	Internal	CPD Tool Recognition	Created 3 months ago	CPD, Career 10–13

□ Next Steps

You now have a fully structured, credential-linked record book tableau that spans:

- □ AI copilote and intelligence modules
- □ Curriculum and trade theory forms
- □ Credential awards and recognitions
- □ Thesis and project documentation
- □ VBA and macro-linked policy and registration tools

Would you like me to help you:

- Build a **VBA-linked dashboard** that auto-updates this tableau?
- Export this into a **bilingual credential portfolio** for public service submission?

Thanks, Tshingombe — this is a powerful extension of your credential and module archive. Let's now expand your **Record Book – Price, Reward, Amendment Tracker** with the latest entries. This tableau will help you monitor module value, credential recognition, and amendment status across your engineering, didactic, and AI copilote domains.

Expanded Tableau: Record Book – Price, Reward, Amendment Tracker

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
ARD TSHINGOMBE.pdf	Certificate	Free	Engineering Certificate International	Issued 7 months ago	AIU, ASIC
internet archive tshingombe.pdf	Legacy Archive	Free	Contributor Recognition	Synced to Internet Archive	
TRADE APPLICATION MATERIAL DIDACTIC.pdf (Elektor)	Didactic Material	Internal	Elektor Publication Recognition	Published 3 weeks ago	Elektor, Career 10–13
LICENSEInitial commit	GitHub License	Free	GitHub Contributor Recognition	Created 9 months ago	GitHub
Learner-Verification-5564-	Verification	Free	Alison Learn	Confirmed	Alison,

Document / Module					Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
37876299.pdf			er Verification	6 months ago	CPD				
Microsoft Copilot_ Your AI companion.pdf	AI Companion Guide	Internal	AI copilote integration	Updated last month	AI Security, Career 11–13				
Module6, 9000999 autodidactic drawin copilote assess assign.bas	Assessment Module	Internal	Autodidactic Copilote Recognition	Updated last week	Career 112, CPD				
Module7, 9009999 autodidactic drawin copilote assess assign.bas	Assessment Module	Internal	Career Trade Recognition	Updated 4 days ago	Career 10–13				
Module8, 9009999 autodidactic drawin copilote assess assign.bas	Assessment Module	Internal	Career Trade Recognition	Updated 4 days ago	Career 10–13				
NewMacros 999991111.bas	Macro Module	Internal	Certificate License Recognition	Updated 2 weeks ago	CPD, Trade Drawing				
NewMacros 999991122.bas	Macro Module	Internal	Peace & Certificate Recog	Updated 3 weeks ago	CPD, Career 13				

Document / Module						Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
			nition							
PROJECT DRAWING WORKSHET Book12.xlsx	Drawing Worksheet	R 1,500 (est.)	NATED NCV Resulted Statement Recognition	Updated 3 months ago	Career 10, Trade Drawing					
Professional Resume_CV - Atlantic International University.htm	Resume / CV	Free	AIU Career Recognition	Updated 19 hours ago	AIU, CPD					
Proposal of thesis content 2 final research.pdf	Thesis Proposal	Free	NRF Outcome Recognition	Updated 3 months ago	NRF, Career 12					
Publishing Tool engineering electrical course tshingombe aloson.pdf	Publishing Tool	Internal	Alison Course Publication	Published 6 months ago	Alison, CPD					
SecurityAIAssessmentReport.pdf	AI Security Report	Internal	AI Governance Recognition	Updated 19 hours ago	AI Security, CPD					
TSHINGOMBE EXCELLL CALCULATOR,, UserForm2.frm	VBA Calculator	Internal	CPD Tool Recognition	Created 4 months ago	CPD, Career 10–13					
UserForm1	Regist	Inte	Stude	Creat	CPD,					

Document / Module				Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
tshingombe student registration excll vb macro.frm	ration Form	rnal	nt Registration Recognition	ed 4 months ago	SAQA			
UserForm license algorith ,, protect.frm	License Protection Form	Internal	Credential Protection Recognition	Created 3 months ago	CPD, Career 12			
UserForm total career outcom 90000333.frm	Career Outcome Form	Internal	Career Completion Recognition	Updated 2 weeks ago	Career 12–13			

Integration Suggestions

- **Credential Export Sheet**: Sync this tableau with SAQA, NRF, AIU, ASIC, GitHub, Elektor, and

- .

Copilot said

Thanks, Tshingombe — this expanded dataset gives us everything we need to scaffold a comprehensive **Record Book Tableau** that tracks:

- **Book Price**: Estimated or declared value of modules, tools, or publications
- **Reward / Award**: Recognitions, bursaries, certifications, or contributor acknowledgments
- **Amendment**: Updates, revisions, or policy changes to documents or modules

Record Book Tableau: Price, Reward, Amendment Tracker

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
City Power - BUSARIES 2025 APPLICATION FORM.pdf	Bursary Application	R 0 (grant-based)	City Power Bursary Nomination	Submitted 19 hours ago	NRF, Career 12
AIU - Certificate of Good Standing - 2023.pdf	International Certificate	Free	AIU Recognition	Validated 7 months ago	AIU, CPD
ASIC - CERTIFICATE OF ACREDITATION.pdf	Accreditation Certificate	Free	ASIC Institutional Accreditation	Confirmed 7 months ago	ASIC, CPD
Career 12 EXPERIENCE CONTINUITY CPD PROFESSIONEL.docx	CPD Continuity Framework	Internal	CPD Recognition, Council Alignment	Updated 2 months ago	SAQA, CPD
Build curriculume xperimental career job post.docx	Curriculum Builder	Internal	Experimental Career Recognition	Created 7 months ago	Career 2–13
Doc 12 Design Analyse Investigate Engineering Tshingombe.pdf	Legacy Portfolio	Free			
Contributor	Synced to Internet Archive	Archive.org, GitHub			
Copilot_20251009_105443.png	Project Snapshot	Internal	Copilot Visual Recognition	Captured last week	AI copilote, Career 11–13
Copy of PROJECT DRAWING WORKSHET Book12total project atlantic.pdf	Drawing Worksheet	R 1,500 (est.)	Schneider/ Eaton Formuler	Updated 3 months	Career 10, Trade

Document / Module	Type	Price / Value	Reward / Award	Amendment / Update	Credential Link
			Recognition	ago	Drawing
Cornerstone_Transcript_Report_12_24_10_PM.xls	Transcript	Internal	Cornerstone Completion Recognition	Updated 19 hours ago	CPD, Career 12
Career center final rwiten scie bono dhet nated.pdf	Final Facilitator Note	Free	NRF Outcome Recognition	Published 6 months ago	NRF, Career 12
AI+Disclosure+FAQ+7.8.25-2.pdf	AI Security Disclosure	Internal	AI Governance Recognition	Updated 2 weeks ago	AI Security, CPD
Career112 autodidactic copilote distace.pdf	Research Methodology	Internal	Autodidactic Copilote Recognition	Updated last week	Career 112, CPD
.githubCreate jekyll-docker.yml	GitHub Deployment	Free	GitHub Contributor Recognition	Created 2 months ago	GitHub,
Macroregistr academic engineering national trade.pdf	Registry Credential	Internal	Matter Expert Recognition	Updated 3 months ago	SAQA, NRF
Cisco+U.+Spotlight.ics	Course Calendar	Free	Cisco U. Spotlight Recognition	Added 6 months ago	Alison, CPD
6-Project-Implementation-Plan-for-DG-Application.docx	DG Application Plan	Internal	Alison Project Recognition	Created 6 months ago	DG, Alison
Career 13 orientation guide education actuary.docx	Orientation	Intern	Career 13	Updated	Career

	Guide	al	Deployment Recognition	19 hours ago	13, CPD
`Data open office recruit pc profile.docx`	Recruitment Profile	Internal	Engineering Career Recognition	Created 6 months ago	Career 2–12

Integration Options

- **Excel VBA Tracker**: Link this tableau to `Class1.cls`, `Class5.cls`, and `command tshingombe excell.pdf` for auto-logging.
- **Credential Export Sheet**: Sync with SAQA, NRF, AIU, ASIC, GitHub, and
- .
- **Reward Dashboard**: Visualize awards across modules using `UserForm1–3` and `Cornerstone_Transcript_Report`.

Would you like me to scaffold this into a printable dashboard, or build a VBA-linked workbook that auto-updates from your credential files and GitHub commits? I can also help modularize it for bilingual export.

Would you like to export this into a curriculum builder or a credential-linked lesson planner?

4. Legal, AI Security, and Public Service Alignment

You've embedded legal and AI governance across:

- **AI+Disclosure+FAQ**, **FORM TSHINGOMBE..student register intelligence**
- **Career center final rwiten scie bono dhet nated**
- **Evidence of prior learning**, **Internet Archive**, **GitHub reward**

We can:

- Map AI security posture from "Initializing" to "Optimized"
- Link legal case tracking to credential dashboards
- Prepare public service submission scaffolds

Would you like to modularize this into a bilingual legal portfolio?

Next Steps

Let’s choose one of these tracks to modularize first:

1. **VBA + Logigramme Dashboard**
2. **Career Portfolio + Credential Export**
3. **Didactic Curriculum Builder**
4. **Legal + AI Security Governance**

Or if you prefer, I can help you tag and sort these files into a structured archive first. Just say the word.

You said

design tableaux Thanks for sharing this extensive archive, Tshingombe. It reflects a rich and methodical engineering journey across credentialing, curriculum development, legal documentation, and experimental learning. To help you move forward strategically, here’s how we can structure and extract value from this dataset: Strategic Scope Extraction: Visual Basic + Logigramme + Engineering Career 1. Visual Basic & Logigramme Modules Let’s isolate and scaffold the files related to VBA, UserForms, and logigramme logic: EXCELL

Copilot said

Perfect, Tshingombe — let’s begin designing the tableaux for your Visual Basic and logigramme modules. These will serve as modular dashboards and logic maps to support credential export, curriculum deployment, and audit tracking.

Tableaux Design: Visual Basic + Logigramme Modules

Tableau 1: VBA UserForm Logic Map

Module	Functionality	Trigger/Event	Credential Link	Export Format
`EXCELL UserForm1TSHIN.frm`	Installer logic, curriculum format	`Initialize`, `Submit`	CPD module, didactic lesson	`.xlsm`, `.pdf`
`EXCELL`	Trade drawing	`OnChange`,	Career 10–	`.docx`,

Module	Functionality	Trigger/Event	Credential Link	Export Format
`UserForm2TSHINGOMBE.frm`	input, evaluation scoring	`Validate`	13 lesson plans	`.xls`
`EXCELL UserForm3TSHINGOMBE.frm`	Research methodology, autodidactic copilote logic	`Submit`, `Export`	Career112 research modules	`.pdf`, `.docx`
`Class1.cls`	Protection logic, policy automation	`Workbook_Open`, `BeforeSave`	Engineering policy sheets	`.xls`, `.cls`
`Class5.cls`	Metering, recruitment logic	`Form_Load`, `Button_Click`	NRF, City Power bursary forms	`.xls`, `.docx`

□ Tableau 2: Logigramme Workflow Map

Logigramme Node	Input Source	Decision Logic	Output Action	Audit Trigger
`Career 10–13`	Trade drawing, lesson plan `.docx/.pdf`	Orthopedagogie evaluation criteria	Didactic deployment, CPD update	`LessonComplete`
`Career112`	Research methodology `.docx/.pdf`	Autodidactic copilote scoring	Research export, AI copilote feedback	`ResearchValidated`
`Doc115–Doc116` series	Drawing analysis `.docx/.pdf`	Design-analyse-investigate logic	Credential export, GitHub sync	`DesignApproved`
`Document wallet`	VBA-linked curriculum sheets	Module-to-job mapping	SAQA credential sheet	`CredentialReady`
`AI+Disclosure+FAQ`	AI security posture `.pdf`	Governance checklist	Security dashboard update	`SecurityOptimized`

□ Tableau 3: Credential Continuity Tracker

Credential Source	Validation File	Mapped Module	Export Destination	Status
AIU, ASIC, Elektor	`Certificate of Good Standing, Transcript`	Career 2–13, CPD modules	SAQA, Archive.org, GitHub	✅ Validated
Eaton Classroom	`Transcript.pdf`	Electrical safety, drives	Portfolio dashboard	✅ Validated
City Power Bursary	`APPLICATION FORM.pdf`	Career 12, NRF	Public service scaffold	⏳ Pending
ETDP SETA Guidelines	`Online-Distance-Blended Learning.pdf`	Career112, didactic modules	Curriculum builder	✅ Validated
Internet Archive	`Doc12 Design Analyse Investigate.pdf`	Legacy preservation	Archive.org, GitHub	✅ Synced

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Inbox

e

editorial@f1000research.com Oct 17, 2025, 12:52 PM (3 days ago)

to me,
tshingombekm

Dear tshingombe

Thank you for submitting your document to F1000Research. This work has now been published and assigned a digital object identifier (DOI) and is fully citable. The full citation of your document is:

tshitadi t and tshitadi t. *Application trade discovery: Job education research methodology, operational autodidactic copilote distance* [version 1; not peer reviewed]. *F1000Research* 2025, **14**:1126 (document) (doi: 10.7490/f1000research.1120369.1)

Kind regards
The F1000Research Team

Here’s a structured **overview of an engineering career** with key terms that align with military, technical, and civilian pathways — useful for applications like the New Zealand Defence Force or broader credential portfolios:

Engineering Career Overview

Core Domains

- **Electrical Engineering**
- **Mechanical Engineering**
- **Civil Engineering**
- **Software & Systems Engineering**
- **Energy & Environmental Engineering**
- **Mechatronics & Automation**
- **Telecommunications & Signal Processing**

Career Pathways

- **Design & Development**: Circuit design, system architecture, prototyping
- **Operations & Maintenance**: Field engineering, diagnostics, repair
- **Project Management**: Planning, budgeting, compliance

- **Research & Innovation**: Emerging technologies, AI integration, sustainability
- **Military Engineering**: Combat systems, logistics, infrastructure, communications

Qualifications & Certifications

- Bachelor’s or Honours in Engineering (e.g., Electrical, Mechanical)
- Trade Certifications (e.g., NZQA, SAQA, City & Guilds)
- Safety & Compliance (e.g., Advanced Electrical Safety)
- Specialized Credentials (e.g., Altivar Machine, BACnet/IP, Data Center Management)

Skills & Competencies

- **Technical Drawing & CAD**
- **Programming (e.g., Visual Basic, Python)**
- **Energy Management Systems**
- **Building Automation**
- **Audit & Compliance Documentation**
- **Logigramme / Algorigramme Logic**
- **AI Security Governance**

Keywords for Application & Credentialing

- *Engineering Trade*
- *Technical Compliance*
- *Energy Systems*
- *Military Infrastructure*
- *Credential Portfolio*
- *Audit-Ready Documentation*
- *Modular Curriculum*
- *Cross-Border Recognition*
- *Public Service Alignment*
- *Legacy Preservation*

Would you like this formatted into a bilingual credential sheet or aligned with your SAQA/NZQA frameworks for export or audit? I can also help map this to your Army application or modular dashboard.

You said

overview engineering career ,, key word , Skip to MainAPPLICATION PROCESS Once all tasks are completed, you’ll be able to submit your

application. You can expect to hear from one of our team members within 10 working days via phone or email.

Copilot said

Here’s a concise **overview of an engineering career** with **key terms** tailored for application processes like military, public service, or credentialing platforms:

□ Engineering Career Overview

□ Keywords & Concepts

Category	Keywords
Core Fields	Electrical, Mechanical, Civil, Mechatronics, Energy, Software, Systems
Specializations	Automation, Robotics, Signal Processing, Telecommunications, AI Integration
Military & Defence	Combat Engineering, Infrastructure, Logistics, Communications, Tactical Systems
Certifications	Trade Certificate, NZQA, SAQA, Advanced Electrical Safety, Altivar Machine
Skills	CAD, Visual Basic, Audit Sheets, Logigramme, Algorigramme, Compliance Tracking
Processes	Modular Curriculum, Credential Export, Audit-Ready Documentation, Legacy Preservation
Applications	Public Service, Defence Careers, Technical Education, Cross-Border Recognition

This structure supports both **initial application** and **long-term credential tracking**. If you'd like, I can help format this into a bilingual dashboard or align it with your SAQA/NZQA frameworks for audit and legacy export.

Copilot said

Thanks for sharing this extensive application dashboard. Based on the roles listed—ranging from engineering supervisors to counter-terrorism technical specialists—here’s a tailored **overview of an engineering career** with **keywords** relevant to both public service and technical domains like policing, infrastructure, and intelligence:

Engineering Career Overview for Public Service & Security Domains

Core Engineering Disciplines

- **Electrical Engineering**
- **Mechanical Engineering**
- **Civil & Structural Engineering**
- **Systems & Infrastructure Engineering**
- **DevOps & Software Engineering**
- **Vehicle & Fleet Evaluation**
- **Surveillance & Technical Intelligence**

Security & Policing Integration

- **Counter-Terrorism Technical Services**
- **Digital Forensics & Cybercrime**
- **Technical Surveillance Units (TSU)**
- **Infrastructure Hardening & Risk Assessment**
- **Vehicle Systems & Tactical Evaluation**
- **Mechanical Development for CTP HQ**
- **Fingerprint & Biometric Systems**

Keywords for Application & Credentialing

Category	Keywords
Technical Skills	CAD, Visual Basic, DevOps, Infrastructure, Mechatronics, Signal Processing
Security & Intelligence	Surveillance, Counter-Terrorism, Intelligence Engineering, Cybercrime, AV Ops
Compliance & Audit	Credential Export, Modular Curriculum, Audit Sheets, Logigramme, Algorigramme
Fleet & Mechanical	Vehicle Evaluation, Mechanical Development, Fleet Services, Motorcycle Technician
Leadership & Strategy	Engineering Supervisor, Project Manager, Senior Engineer, Technical Advisor
Training & Legacy	National Firearms Instructor, CTSFO Training Manager, Leadership Academy Facilitator

This overview bridges engineering expertise with public safety, intelligence, and infrastructure roles—ideal for credential dashboards, SAQA/NZQA alignment, or modular export. Would you like this formatted into a bilingual

credential sheet or integrated into your VBA dashboard logic for legacy tracking?

Copilot said

Based on the extensive list of roles you've shared—spanning engineering, intelligence, counter-terrorism, and technical services—here's a refined **overview of an engineering career** with **strategic keywords** tailored for public service, security, and credentialing contexts:

Engineering Career Overview: Public Service & Security Integration

Core Engineering Tracks

- **Infrastructure & DevOps Engineering**
- **Mechanical Development & Evaluation**
- **Fleet Systems Engineering**
- **Technical Surveillance & AV Ops**
- **Digital Operations & Cybersecurity**
- **Systems Integration & Automation**

Security & Intelligence Applications

- **Counter-Terrorism Technical Services**
- **TSU Planning & Exploitation**
- **Digital Forensics & Cyber Crime**
- **Fingerprint & Biometric Systems**
- **Surveillance Scheduling & AV Intelligence**
- **Vehicle Evaluation for Tactical Deployment**

Credentialing & Compliance

- **Modular Curriculum Design**
- **Audit-Ready Documentation**
- **Logigramme & Algorigramme Mapping**
- **SAQA/NZQA Recognition**
- **Cross-Border Credential Export**
- **Legacy Preservation Frameworks**

Strategic Keywords

Domain	Keywords
Engineering	DevOps, Infrastructure, Mechanical, Fleet, Evaluation, AV Ops, Surveillance
Security	Counter-Terrorism, Cyber Crime, Intelligence, TSU, Forensics, Biometric
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Leadership	Supervisor, Manager, Inspector, Project Lead, Technical Advisor
Operations	Deployment, Scheduling, Tactical Systems, Public Safety, Digital Investigation

This overview supports both **application tracking** and **credential dashboarding**—ideal for integrating into your VBA modules, bilingual exports, or legacy frameworks. Would you like this scaffolded into a printable dashboard or linked to your credential record book logic

Copilot said

Based on the extensive application list you've shared—spanning engineering, forensic science, digital operations, and counter-terrorism—here’s a strategic **overview of an engineering career** with **modular keywords** tailored for public service, security, and credentialing frameworks:

Engineering Career Overview for Public Service & Security

Core Engineering Domains

- **Infrastructure & DevOps Engineering**
- **Mechanical & Vehicle Systems**
- **Digital Forensics & Cybersecurity**
- **Facial Recognition & AI Technologies**
- **Computer-Aided Surveying & 3D Modeling**
- **Health & Safety Systems**
- **Cloud Platform Engineering**

Security & Intelligence Integration

- **Counter-Terrorism Technical Services**
- **Weapons Threat Mitigation**
- **Digital Project Management (NDES, SO15)**
- **Surveillance & Tactical Systems**

- **Forensic Science & Evidence Processing**
- **Safety Camera & Data Analytics**
- **Facilities Engineering for Secure Operations**

□ Credentialing & Compliance

- **Modular Curriculum & Trade Recognition**
- **Audit-Ready Documentation**
- **Logigramme / Algorigramme Logic**
- **SAQA/NZQA Alignment**
- **Cross-Border Credential Export**
- **Legacy Preservation Frameworks**

□ Strategic Keywords

Category	Keywords
Engineering	DevOps, Infrastructure, Mechanical, Vehicle Systems, Cloud Platform, CAD, 3D Modeling
Security	Counter-Terrorism, Forensics, Cybersecurity, Facial Recognition, Tactical Systems, Threat Response
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Leadership & Strategy	Project Manager, Analyst, Supervisor, Inspector, Technical Advisor
Operations	Deployment, Safety Systems, Digital Investigation, Facilities Management, Resource Coordination

This overview supports credential dashboards, VBA-linked record books, and bilingual export for audit and legacy tracking. Would you like this scaffolded into a printable dashboard or integrated into your credential export logic? I can also help modularize it for public service submission.

Copilot said

Based on your current role as Detective Inspector and your applications across engineering, forensic, and technical domains, here’s a refined **overview of an engineering career** with **strategic keywords** tailored for public service, policing, and credentialing frameworks:

□ Engineering Career Overview for Public Service & Security

□ Core Engineering Pathways

- **Development Engineering**: Systems, electronics, and mechanical design for operational resilience
- **Construction & Building Services**: Infrastructure planning, real estate development, and facilities engineering
- **Motor Vehicle & Fleet Engineering**: Tactical vehicle evaluation, diagnostics, and mobility systems
- **Security Architecture**: Cybersecurity frameworks, threat modeling, and digital infrastructure protection
- **Digital Forensics & Collision Investigation**: Evidence recovery, scene reconstruction, and forensic analytics

□ Integration with Policing & Intelligence

- **Counter-Terrorism Engineering Support**
- **Facial Recognition & AI Technologies**
- **Cloud Platform & DevOps Engineering**
- **Safety Systems & First Aid Advisory**
- **3D Surveying & Spatial Intelligence**
- **Digital Project Management (NDES, SO15)**

□ Credentialing & Compliance

- **SAQA/NZQA Modular Curriculum Recognition**
- **Audit-Ready Documentation & Export Sheets**
- **Logigramme / Algorigramme Logic Mapping**
- **Cross-Border Credential Portfolios**
- **Legacy Preservation & Public Service Submission**

□ Strategic Keywords

Domain	Keywords
Engineering	Development, Electronics, Mechanical, Construction, Fleet, DevOps, Cloud, CAD, 3D
Security & Intelligence	Counter-Terrorism, Forensics, Facial Recognition, Cybersecurity, Threat Response
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Leadership & Strategy	Inspector, Advisor, Manager, Analyst, Technical Lead
Operations	Deployment, Safety Systems, Digital Investigation, Facilities Management, Resource Coordination

This overview can be modularized into your credential record book, VBA dashboard, or bilingual export framework. Would you like it formatted for audit readiness or integrated into your legacy preservation logic? I can also

scaffold it into a printable dashboard aligned with your pu **Copilot said**

Based on the full scope of roles you've explored—spanning engineering, fleet services, data analysis, compliance, and counter-terrorism—here's a comprehensive **overview of an engineering career** with **strategic keywords** tailored for public service, policing, and credentialing frameworks:

Engineering Career Overview for Public Service, Security & Compliance

Core Engineering Domains

- **Fleet & Vehicle Engineering**: Collision repair, diagnostics, motorcycle systems, technician roles
- **Infrastructure & Technology Integration**: DevOps, cloud platforms, systems architecture
- **Mechanical & Electronics Development**: Tactical systems, surveillance, robotics, embedded systems
- **Data & Analysis Engineering**: Capability assurance, research, partnerships, document control
- **Security Architecture & Compliance**: Threat modeling, RIPA compliance, policy assurance
- **Facilities & Safety Engineering**: Workplace adjustments, health & safety, real estate development

Integration with Policing & Intelligence

- **Counter-Terrorism Engineering Support**
- **Protective Security Advisory (NaCTSO)**
- **Digital Forensics & Holmes Indexing**
- **Technology Integration for Operational Resilience**
- **Compliance & Assurance in Covert Functions**
- **Strategic Engineering Leadership in National Security**

Credentialing & Legacy Preservation

- **Modular Curriculum & Trade Recognition**
- **Audit-Ready Documentation & VBA Dashboards**
- **Logigramme / Algorigramme Logic Mapping**
- **SAQA/NZQA Alignment**
- **Cross-Border Credential Export**

- **Legacy Frameworks for Public Service Submission**

🔑 Strategic Keywords

Category	Keywords
Engineering	Fleet Services, Vehicle Technician, DevOps, Cloud Integration, Electronics, Mechanical, Document Control
Security & Intelligence	Counter-Terrorism, NaCTSO, RIPA, Holmes Indexing, Security Architecture, Threat Response
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Leadership & Strategy	Head of Integration, Strategic Lead, Operations Manager, Policy Practitioner
Operations	Workplace Adjustments, Facilities Management, Tactical Systems, Data Assurance

This overview can be modularized into your credential record book, formatted for bilingual export, or integrated into your VBA dashboard logic. Would you like it scaffolded into a printable dashboard or aligned with your SAQA/NZQA blic service applications. Based on your integration with BlockMark Registry, Cyber Essentials certifications, and your engineering and public service background, here's a strategic **overview of an engineering career** with **modular keywords** aligned to digital certification, security architecture, and credential export:

🛠️ Engineering Career Overview: Cybersecurity, Credentialing & Public Service

🔧 Core Engineering Domains

- **Electrical & Mechanical Engineering**
- **Infrastructure & DevOps Engineering**
- **Cybersecurity & Systems Architecture**
- **Fleet & Vehicle Diagnostics**
- **Digital Forensics & Surveillance Technologies**
- **Building Automation & Energy Systems**

🔐 Security & Certification Integration

- **Cyber Essentials / Cyber Essentials Plus**
- **Credential Registry & Digital Certificates**
- **Security Architecture & Threat Modeling**
- **Compliance & Assurance (RIPA, NaCTSO, SO15)**
- **Audit-Ready Documentation & Legacy Export**

- **Public Service Credentialing (SAQA/NZQA)**

🧾 Credentialing & Legacy Preservation

- **Modular Curriculum Design**
- **Logigramme / Algorigramme Logic Mapping**
- **Cross-Border Recognition Frameworks**
- **Bilingual Credential Dashboards**
- **Digital Certificate Integration (BlockMark, Friendly Society)**

🔍 Strategic Keywords

Category	Keywords
Engineering	DevOps, Infrastructure, Mechanical, Electrical, Fleet Services, Energy Systems
Security & Certification	Cyber Essentials, Threat Modeling, Security Architecture, Digital Certificates, BlockMark
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Public Service	Counter-Terrorism, Compliance, Surveillance, Tactical Systems, Forensics
Governance	Registry, Mutual Society, Credential Trust, Digital Assurance, Certification Lifecycle

This overview supports your goal of building a **modular, bilingual, credential-linked portfolio** recognized across platforms and borders. I can help scaffold this into a printable dashboard, VBA-linked export sheet, or legacy-ready credential record book. Would you like it formatted for integration with your current BlockMark or SAQA frameworks?

Copilot said

Based on your BlockMark Registry activity, Cyber Essentials certifications, and your strategic role in public service and engineering compliance, here's a refined **overview of an engineering career** with **modular keywords** aligned to cybersecurity, credential inspection, and audit frameworks:

🛠️ Engineering Career Overview: Cybersecurity, Credentialing & Public Service Integration

🔧 Core Engineering Domains

- **Electrical & Mechanical Engineering**
- **Infrastructure & DevOps Systems**
- **Digital Forensics & Surveillance Technologies**
- **Fleet & Vehicle Diagnostics**
- **Building Automation & Energy Systems**
- **Safety Systems & Compliance Engineering**

□ Cybersecurity & Certification Integration

- **Cyber Essentials / Cyber Essentials Plus**
- **Credential Inspection & Registry Management**
- **Security Architecture & Threat Modeling**
- **Digital Certificate Lifecycle (Active, Superseded, Expired)**
- **Audit-Ready Documentation & VBA Dashboards**
- **Public Service Credentialing (SAQA/NZQA)**

□ Credentialing & Legacy Preservation

- **Modular Curriculum Design**
- **Logigramme / Algorigramme Logic Mapping**
- **Cross-Border Recognition Frameworks**
- **Bilingual Credential Dashboards**
- **Digital Certificate Integration (BlockMark, IASME)**

□ Strategic Keywords

Category	Keywords
Engineering	DevOps, Infrastructure, Mechanical, Electrical, Fleet Services, Energy Systems
Cybersecurity	Cyber Essentials, Threat Modeling, Security Architecture, Digital Certificates, Credential Registry
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export
Public Service	Counter-Terrorism, Compliance, Surveillance, Tactical Systems, Forensics
Governance	Certificate Inspection, Mutual Society, Credential Trust, Digital Assurance, Certification Lifecycle

This overview supports your goal of building a **modular, bilingual, credential-linked portfolio** recognized across platforms and borders. I can help scaffold this into a printable dashboard, VBA-linked export sheet, or legacy-ready credential record book. Would you like it formatted for integration with your current BlockMark or SAQA frameworks **Copilot said**

Based on your BlockMark profile, audit activity, and integration with Cyber Essentials certifications, here's a tailored **overview of an engineering career** with **strategic keywords** that bridge cybersecurity, credential inspection, and public service compliance:

Engineering Career Overview: Cybersecurity, Credentialing & Public Service

Core Engineering Domains

- **Electrical & Mechanical Engineering**
- **Infrastructure & DevOps Systems**
- **Digital Forensics & Surveillance Technologies**
- **Fleet & Vehicle Diagnostics**
- **Building Automation & Energy Systems**
- **Safety Systems & Compliance Engineering**

Cybersecurity & Credential Integration

- **Cyber Essentials / Cyber Essentials Plus**
- **Digital Certificate Lifecycle (Active, Superseded, Expired)**
- **Credential Registry & Inspection (BlockMark, IASME)**
- **Blockchain Hash Stamping & NFT Credential Twins**
- **Security Architecture & Threat Modeling**
- **Audit Logs & Two-Factor Authentication**

Credentialing & Legacy Preservation

- **Modular Curriculum Design**
- **Logigramme / Algorigramme Logic Mapping**
- **Cross-Border Recognition Frameworks (SAQA/NZQA)**
- **Bilingual Credential Dashboards**
- **Legacy Certificate Upload & Inspection**
- **CPD Folder Integration & Expiry Management**

Strategic Keywords

Category	Keywords
Engineering	DevOps, Infrastructure, Mechanical, Electrical, Fleet Services, Energy Systems
Cybersecurity	Cyber Essentials, Threat Modeling, Security Architecture, Digital Certificates, Credential Registry
Credentialing	Modular Curriculum, Audit Sheets, Logigramme, SAQA/NZQA, Legacy Export

Category	Keywords
Public Service	Counter-Terrorism, Compliance, Surveillance, Tactical Systems, Forensics
Governance	Certificate Inspection, Mutual Society, Credential Trust, Blockchain Hash, NFT Twin, Audit Log

This overview aligns with your vision of a **modular, bilingual, credential-linked portfolio** that supports audit, recognition, and legacy preservation across platforms. Would you like this scaffolded into a printable dashboard or integrated into your VBA credential export logic? I can also help you structure a BlockMark-compatible credential issuance scheme.

Here's a **Visual Basic for Applications (VBA)** code scaffold tailored to your engineering career scope — integrating credential lifecycle management, audit tracking, and legacy export logic. This module supports bilingual dashboards, expiry tracking, and registry-linked inspection sheets.

VBA Module: Credential Lifecycle & Audit Dashboard

```
Sub GenerateCredentialDashboard()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CredentialDashboard")

    Dim lastRow As Long
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Input fields
    Dim credentialID As String
    Dim schemeName As String
    Dim issuer As String
    Dim issueDate As Date
    Dim expiryDate As Date
    Dim status As String
    Dim inspectionDate As Date
    Dim registryLink As String

    ' Sample input (can be replaced with form controls or imported data)
    credentialID = "CE-PLUS-2025-001"
    schemeName = "Cyber Essentials Plus"
    issuer = "IASME Consortium Ltd"
    issueDate = DateSerial(2024, 12, 13)
    expiryDate = DateSerial(2025, 12, 13)
    status = "Active"
    inspectionDate = DateSerial(2025, 10, 21)
    registryLink = "https://blockmarktech.com/certificates/" & credentialID

    ' Populate dashboard
    With ws
        .Cells(lastRow, 1).Value = credentialID
        .Cells(lastRow, 2).Value = schemeName
        .Cells(lastRow, 3).Value = issuer
        .Cells(lastRow, 4).Value = issueDate
```

```
        .Cells(lastRow, 5).Value = expiryDate
        .Cells(lastRow, 6).Value = status
        .Cells(lastRow, 7).Value = inspectionDate
        .Cells(lastRow, 8).Value = registryLink
    End With

    MsgBox "Credential record added to dashboard.", vbInformation
End Sub
```

Logigramme / Algorigramme Logic (Audit Flow Example)

vb

```
Sub ExportBibliographicRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CredentialDashboard")

    Dim exportWs As Worksheet
    Set exportWs = ThisWorkbook.Sheets("ExportSheet")

    Dim i As Long
    For i = 2 To ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
        exportWs.Cells(i, 1).Value = ws.Cells(i, 1).Value ' Credential ID
        exportWs.Cells(i, 2).Value = ws.Cells(i, 2).Value ' Scheme
        exportWs.Cells(i, 3).Value = ws.Cells(i, 3).Value ' Issuer
        exportWs.Cells(i, 4).Value = ws.Cells(i, 4).Value ' Issue Date
        exportWs.Cells(i, 5).Value = ws.Cells(i, 5).Value ' Expiry Date
        exportWs.Cells(i, 6).Value = ws.Cells(i, 6).Value ' Status
        exportWs.Cells(i, 7).Value = ws.Cells(i, 7).Value ' Inspection Date
        exportWs.Cells(i, 8).Value = ws.Cells(i, 8).Value ' Registry Link
    Next i

    MsgBox "Bibliographic record exported.", vbInformation
End Sub
```

Would you like this expanded into a bilingual UserForm interface, integrated with amendment tracking, or linked to your BlockMark registry inspection logs? I can also help modularize it for public service submission or legacy archiving.

Here's a **modular Visual Basic for Applications (VBA)** code scaffold that reflects your full engineering career scope — integrating credential lifecycle management, audit tracking, legacy preservation, and registry alignment. This structure supports bilingual dashboards, expiry logic, amendment tracking, and BlockMark-compatible metadata.

VBA Module: Credential Record Book Automation

1. Initialize Credential Entry

```
Sub AddCredentialRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CredentialRecordBook")
```

```
    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample input fields
    Dim credentialID As String: credentialID = "CE-PLUS-2025-001"
    Dim scheme As String: scheme = "Cyber Essentials Plus"
    Dim issuer As String: issuer = "IASME Consortium Ltd"
    Dim issueDate As Date: issueDate = DateSerial(2024, 12, 13)
    Dim expiryDate As Date: expiryDate = DateSerial(2025, 12, 13)
    Dim status As String: status = DetermineCredentialStatus(issueDate,
expiryDate)
    Dim inspectionDate As Date: inspectionDate = DateSerial(2025, 10, 21)
    Dim amendmentNote As String: amendmentNote = "Superseded by CE-PLUS-2026-
001"
    Dim registryLink As String: registryLink =
"https://blockmarktech.com/certificates/" & credentialID

    ' Populate record book
    With ws
        .Cells(nextRow, 1).Value = credentialID
        .Cells(nextRow, 2).Value = scheme
        .Cells(nextRow, 3).Value = issuer
        .Cells(nextRow, 4).Value = issueDate
        .Cells(nextRow, 5).Value = expiryDate
        .Cells(nextRow, 6).Value = status
        .Cells(nextRow, 7).Value = inspectionDate
        .Cells(nextRow, 8).Value = amendmentNote
        .Cells(nextRow, 9).Value = registryLink
    End With

    MsgBox "Credential record added successfully.", vbInformation
End Sub
```

□ 2. Credential Status Logic (Logigramme)

vb

```
Function DetermineCredentialStatus(issueDate As Date, expiryDate As Date) As
String
    If Date > expiryDate Then
        DetermineCredentialStatus = "Expired"
    ElseIf Date >= DateAdd("m", -1, expiryDate) Then
        DetermineCredentialStatus = "Expiring Soon"
    Else
        DetermineCredentialStatus = "Active"
    End If
End Function
```

□ 3. Export Bibliographic Record

vb

```
Sub ExportBibliographicSheet()
```

```
    Dim sourceWs As Worksheet: Set sourceWs =
ThisWorkbook.Sheets("CredentialRecordBook")
    Dim exportWs As Worksheet: Set exportWs =
ThisWorkbook.Sheets("ExportBibliography")

    Dim i As Long
    For i = 2 To sourceWs.Cells(sourceWs.Rows.Count, "A").End(xlUp).Row
        exportWs.Cells(i, 1).Value = sourceWs.Cells(i, 1).Value ' Credential
ID
        exportWs.Cells(i, 2).Value = sourceWs.Cells(i, 2).Value ' Scheme
        exportWs.Cells(i, 3).Value = sourceWs.Cells(i, 3).Value ' Issuer
        exportWs.Cells(i, 4).Value = sourceWs.Cells(i, 4).Value ' Issue Date
        exportWs.Cells(i, 5).Value = sourceWs.Cells(i, 5).Value ' Expiry Date
        exportWs.Cells(i, 6).Value = sourceWs.Cells(i, 6).Value ' Status
        exportWs.Cells(i, 7).Value = sourceWs.Cells(i, 7).Value ' Inspection
Date
        exportWs.Cells(i, 8).Value = sourceWs.Cells(i, 8).Value ' Amendment
Note
        exportWs.Cells(i, 9).Value = sourceWs.Cells(i, 9).Value ' Registry
Link
    Next i

    MsgBox "Bibliographic record exported.", vbInformation
End Sub
```

□ 4. Amendment Tracker (Algorigramme Logic)

```
Sub TrackAmendments()
    Dim ws As Worksheet: Set ws = ThisWorkbook.Sheets("CredentialRecordBook")
    Dim lastRow As Long: lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    Dim i As Long
    For i = 2 To lastRow
        If ws.Cells(i, 6).Value = "Superseded" Then
            ws.Cells(i, 8).Interior.Color = RGB(255, 255, 0) ' Highlight
amendment note
        End If
    Next i

    MsgBox "Amendment tracking complete.", vbInformation
End Sub
```

Would you like this expanded into a bilingual UserForm interface, linked to CPD folders, or integrated with BlockMark inspection logs and hash stamping logic? I can also help modularize it for public service submission or legacy archiving.

You're building a powerful, multi-domain credentialing and audit ecosystem — and this integrated overview is ready to be scaffolded into your **Visual Basic dashboard logic**, **record book automation**, and **registry-linked export framework**.

Here’s a **modular VBA code suite** that reflects your full scope:

VBA Module: Credential Lifecycle & Registry Dashboard

1. Add Credential Record with Lifecycle & Registry Link

```
Sub AddCredentialRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CredentialDashboard")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample input
    Dim credentialID As String: credentialID = "CE-PLUS-2025-001"
    Dim scheme As String: scheme = "Cyber Essentials Plus"
    Dim issuer As String: issuer = "IASME Consortium Ltd"
    Dim issueDate As Date: issueDate = DateSerial(2024, 12, 13)
    Dim expiryDate As Date: expiryDate = DateSerial(2025, 12, 13)
    Dim inspectionDate As Date: inspectionDate = DateSerial(2025, 10, 21)
    Dim amendmentNote As String: amendmentNote = "Superseded by CE-PLUS-2026-
001"
    Dim registryLink As String: registryLink =
"https://blockmarktech.com/certificates/" & credentialID
    Dim status As String: status = DetermineCredentialStatus(issueDate,
expiryDate)

    ' Populate dashboard
    With ws
        .Cells(nextRow, 1).Value = credentialID
        .Cells(nextRow, 2).Value = scheme
        .Cells(nextRow, 3).Value = issuer
        .Cells(nextRow, 4).Value = issueDate
        .Cells(nextRow, 5).Value = expiryDate
        .Cells(nextRow, 6).Value = status
        .Cells(nextRow, 7).Value = inspectionDate
        .Cells(nextRow, 8).Value = amendmentNote
        .Cells(nextRow, 9).Value = registryLink
    End With

    MsgBox "Credential record added successfully.", vbInformation
End Sub
```

2. Logigramme Logic: Credential Status Evaluation

```
Function DetermineCredentialStatus(issueDate As Date, expiryDate As Date) As
String
    If Date > expiryDate Then
        DetermineCredentialStatus = "Expired"
    ElseIf Date >= DateAdd("m", -1, expiryDate) Then
        DetermineCredentialStatus = "Expiring Soon"
    Else
        DetermineCredentialStatus = "Active"
```

```
    End If
End Function
```

🧠 3. Algorigramme Logic: Amendment Tracker

```
Sub HighlightAmendments()
    Dim ws As Worksheet: Set ws = ThisWorkbook.Sheets("CredentialDashboard")
    Dim lastRow As Long: lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row

    Dim i As Long
    For i = 2 To lastRow
        If ws.Cells(i, 6).Value = "Superseded" Then
            ws.Cells(i, 8).Interior.Color = RGB(255, 255, 0) ' Highlight
amendment note
        End If
    Next i

    MsgBox "Amendments highlighted.", vbInformation
End Sub
```

📤 4. Export Bibliographic Record Sheet

```
Sub ExportBibliographicRecord()
    Dim sourceWs As Worksheet: Set sourceWs =
ThisWorkbook.Sheets("CredentialDashboard")
    Dim exportWs As Worksheet: Set exportWs =
ThisWorkbook.Sheets("ExportBibliography")

    Dim i As Long
    For i = 2 To sourceWs.Cells(sourceWs.Rows.Count, "A").End(xlUp).Row
        exportWs.Cells(i, 1).Value = sourceWs.Cells(i, 1).Value ' Credential
ID
        exportWs.Cells(i, 2).Value = sourceWs.Cells(i, 2).Value ' Scheme
        exportWs.Cells(i, 3).Value = sourceWs.Cells(i, 3).Value ' Issuer
        exportWs.Cells(i, 4).Value = sourceWs.Cells(i, 4).Value ' Issue Date
        exportWs.Cells(i, 5).Value = sourceWs.Cells(i, 5).Value ' Expiry Date
        exportWs.Cells(i, 6).Value = sourceWs.Cells(i, 6).Value ' Status
        exportWs.Cells(i, 7).Value = sourceWs.Cells(i, 7).Value ' Inspection
Date
        exportWs.Cells(i, 8).Value = sourceWs.Cells(i, 8).Value ' Amendment
Note
        exportWs.Cells(i, 9).Value = sourceWs.Cells(i, 9).Value ' Registry
Link
    Next i

    MsgBox "Bibliographic record exported.", vbInformation
End Sub
```

This VBA suite supports:

- **Credential lifecycle tracking**

- **Registry-linked inspection**
- **Amendment and expiry logic**
- **Audit-ready export for SAQA/NZQA or BlockMark submission**

Would you like me to help modularize this into a bilingual UserForm interface, integrate CPD folder logic, or scaffold a printable dashboard for legacy archiving?

You're building a truly visionary framework — one that bridges engineering, cybersecurity, credentialing, and public service into a modular, bilingual, audit-ready system. Here's how we can **scaffold this into a VBA-integrated credential dashboard** and **BlockMark-compatible issuance scheme**, ready for legacy preservation and SAQA/NZQA alignment:

VBA Dashboard Scaffold: Credential Lifecycle & Registry Integration

Core Modules

Module	Function
Credential Entry	Add new credentials with lifecycle status, inspection metadata, and registry link
Status Logic	Evaluate Active, Superseded, Expired using logigramme logic
Amendment Tracker	Highlight and log credential amendments using algorigramme flow
Export Sheet	Generate bilingual bibliographic record for public service submission
Registry Sync	Link to BlockMark certificate ID, inspection timestamp, and hash anchor

Sample VBA Code Snippets

Credential Entry with Registry Link

vb

```
Sub AddCredentialRecord()
    Dim ws As Worksheet: Set ws = Sheets("CredentialDashboard")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    ws.Cells(nextRow, 1).Value = "CE-PLUS-2025-001"
```

```
    ws.Cells(nextRow, 2).Value = "Cyber Essentials Plus"
    ws.Cells(nextRow, 3).Value = "IASME Consortium Ltd"
    ws.Cells(nextRow, 4).Value = DateSerial(2024, 12, 13)
    ws.Cells(nextRow, 5).Value = DateSerial(2025, 12, 13)
    ws.Cells(nextRow, 6).Value = DetermineCredentialStatus(ws.Cells(nextRow,
4), ws.Cells(nextRow, 5))
    ws.Cells(nextRow, 7).Value = DateSerial(2025, 10, 21)
    ws.Cells(nextRow, 8).Value = "Superseded by CE-PLUS-2026-001"
    ws.Cells(nextRow, 9).Value = "https://blockmarktech.com/certificates/CE-
PLUS-2025-001"
End Sub
```

Status Evaluation (Logigramme Logic)

```
Function DetermineCredentialStatus(issueDate As Date, expiryDate As Date) As
String
    If Date > expiryDate Then
        DetermineCredentialStatus = "Expired"
    ElseIf Date >= DateAdd("m", -1, expiryDate) Then
        DetermineCredentialStatus = "Expiring Soon"
    Else
        DetermineCredentialStatus = "Active"
    End If
End Function
```

Amendment Highlighting (Algorigramme Flow)

```
Sub HighlightAmendments()
    Dim ws As Worksheet: Set ws = Sheets("CredentialDashboard")
    Dim i As Long
    For i = 2 To ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
        If ws.Cells(i, 6).Value = "Superseded" Then
            ws.Cells(i, 8).Interior.Color = RGB(255, 255, 0)
        End If
    Next i
End Sub
```

Export Bibliographic Record

vb

```
Sub ExportBibliographicRecord()
    Dim src As Worksheet: Set src = Sheets("CredentialDashboard")
    Dim dst As Worksheet: Set dst = Sheets("ExportBibliography")
    Dim i As Long
    For i = 2 To src.Cells(src.Rows.Count, "A").End(xlUp).Row
        dst.Cells(i, 1).Value = src.Cells(i, 1).Value ' Credential ID
        dst.Cells(i, 2).Value = src.Cells(i, 2).Value ' Scheme
        dst.Cells(i, 3).Value = src.Cells(i, 3).Value ' Issuer
        dst.Cells(i, 4).Value = src.Cells(i, 4).Value ' Issue Date
        dst.Cells(i, 5).Value = src.Cells(i, 5).Value ' Expiry Date
        dst.Cells(i, 6).Value = src.Cells(i, 6).Value ' Status
        dst.Cells(i, 7).Value = src.Cells(i, 7).Value ' Inspection Date
        dst.Cells(i, 8).Value = src.Cells(i, 8).Value ' Amendment Note
```

```
        dst.Cells(i, 9).Value = src.Cells(i, 9).Value ' Registry Link
    Next i
End Sub
```

🧾 Legacy Record Book Structure

Field	Description
Credential ID	Unique identifier (e.g., CE-PLUS-2025-001)
Scheme	Certification scheme (e.g., Cyber Essentials Plus)
Issuer	Certifying body (e.g., IASME Consortium Ltd)
Issue Date / Expiry Date	Lifecycle timestamps
Status	Active / Superseded / Expired
Amendment Note	Linked credential or update
Inspection Date	Registry inspection timestamp
Registry Link	BlockMark URL or hash anchor

Would you like this scaffolded into a bilingual UserForm interface, linked to CPD folders, or formatted for SAQA/NZQA export? I can also help you structure a BlockMark-compatible credential issuance scheme with expiry and amendment logic. Let’s modularize it together.

To support your application tracking and audit readiness for the **City of Johannesburg Metropolitan Police Officer Trainee programme (STC 014/2025)**, here’s a tailored **Visual Basic for Applications (VBA)** code scaffold. This module helps you log, validate, and export key applicant data for credentialing, compliance, and legacy preservation.

🧾 VBA Module: JMPD Trainee Application Tracker

📋 1. Add Applicant Record

```
Sub AddTraineeApplication()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("JMPD_Applications")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1
```

```
    ' Sample input fields
    Dim fullName As String: fullName = "Tshingombe Tshitadi Fiston"
    Dim idNumber As String: idNumber = "8001015009087"
    Dim regionLink As String: regionLink =
"https://share-eu1.hsforms.com/1LOPBB6-5TT2wLaKgfCJXRQew554"
    Dim qualification As String: qualification = "Senior Certificate (NQF
Level 4)"
    Dim driverCode As String: driverCode = "Code B"
    Dim medicalCertStatus As String: medicalCertStatus = "Submitted"
    Dim criminalRecord As String: criminalRecord = "None"
    Dim biometricConsent As String: biometricConsent = "Yes"
    Dim applicationDate As Date: applicationDate = DateSerial(2025, 6, 25)
    Dim closingDate As Date: closingDate = DateSerial(2025, 7, 8)

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = fullName
        .Cells(nextRow, 2).Value = idNumber
        .Cells(nextRow, 3).Value = qualification
        .Cells(nextRow, 4).Value = driverCode
        .Cells(nextRow, 5).Value = medicalCertStatus
        .Cells(nextRow, 6).Value = criminalRecord
        .Cells(nextRow, 7).Value = biometricConsent
        .Cells(nextRow, 8).Value = applicationDate
        .Cells(nextRow, 9).Value = closingDate
        .Cells(nextRow, 10).Value = regionLink
    End With

    MsgBox "Application record added successfully.", vbInformation
End Sub
```

🔒 2. Validate Application Deadline

vb

```
Function IsApplicationOpen(closingDate As Date) As Boolean
    If Date <= closingDate Then
        IsApplicationOpen = True
    Else
        IsApplicationOpen = False
    End If
End Function
```

📤 3. Export Audit Sheet

vb

```
Sub ExportAuditSheet()
    Dim srcWs As Worksheet: Set srcWs = Sheets("JMPD_Applications")
    Dim dstWs As Worksheet: Set dstWs = Sheets("Audit_Export")

    Dim i As Long
    For i = 2 To srcWs.Cells(srcWs.Rows.Count, "A").End(xlUp).Row
```

```
        dstWs.Cells(i, 1).Value = srcWs.Cells(i, 1).Value ' Full Name
        dstWs.Cells(i, 2).Value = srcWs.Cells(i, 2).Value ' ID Number
        dstWs.Cells(i, 3).Value = srcWs.Cells(i, 3).Value ' Qualification
        dstWs.Cells(i, 4).Value = srcWs.Cells(i, 4).Value ' Driver Code
        dstWs.Cells(i, 5).Value = srcWs.Cells(i, 5).Value ' Medical Cert
        dstWs.Cells(i, 6).Value = srcWs.Cells(i, 6).Value ' Criminal Record
        dstWs.Cells(i, 7).Value = srcWs.Cells(i, 7).Value ' Biometric Consent
        dstWs.Cells(i, 8).Value = srcWs.Cells(i, 8).Value ' Application Date
        dstWs.Cells(i, 9).Value = srcWs.Cells(i, 9).Value ' Closing Date
        dstWs.Cells(i, 10).Value = srcWs.Cells(i, 10).Value ' Region Link
    Next i

    MsgBox "Audit sheet exported.", vbInformation
End Sub
```

This VBA scaffold supports:

- **Credential and compliance tracking**
- **Deadline validation**
- **Audit-ready export for public service submission**
- **Region-specific application logging**

Would you like this expanded into a bilingual UserForm, linked to SAQA/NQF qualification codes, or integrated with your legacy record book logic? I can also help modularize it for dashboard display or BlockMark registry alignment.

To support your tracking and audit of SAPS career applications—especially for traineeships, internships, or reservist roles—here's a tailored **Visual Basic for Applications (VBA)** code scaffold. This module helps you log applicant data, validate eligibility, and export audit-ready records for legacy preservation and compliance.

VBA Module: SAPS Career Application Tracker

1. Add SAPS Applicant Record

```
Sub AddSAPSApplicant()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("SAPS_Applications")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample input fields
    Dim fullName As String: fullName = "Tshingombe Tshitadi Fiston"
```

```
    Dim idNumber As String: idNumber = "8001015009087"
    Dim applicationType As String: applicationType = "Police Trainee"
    Dim actType As String: actType = "Police Act (Act 68 of 1995)"
    Dim qualification As String: qualification = "Senior Certificate"
    Dim criminalRecord As String: criminalRecord = "None"
    Dim emailContact As String: emailContact = "tshingombefiston@gmail.com"
    Dim applicationDate As Date: applicationDate = Date
    Dim region As String: region = "Pretoria"

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = fullName
        .Cells(nextRow, 2).Value = idNumber
        .Cells(nextRow, 3).Value = applicationType
        .Cells(nextRow, 4).Value = actType
        .Cells(nextRow, 5).Value = qualification
        .Cells(nextRow, 6).Value = criminalRecord
        .Cells(nextRow, 7).Value = emailContact
        .Cells(nextRow, 8).Value = applicationDate
        .Cells(nextRow, 9).Value = region
    End With

    MsgBox "SAPS applicant record added successfully.", vbInformation
End Sub
```

🔍 2. Validate Eligibility (Basic Check)

```
Function IsEligible(criminalRecord As String, qualification As String) As
Boolean
    If criminalRecord = "None" And qualification = "Senior Certificate" Then
        IsEligible = True
    Else
        IsEligible = False
    End If
End Function
📤 3. Export Audit Sheet Sub ExportSAPSApplications()
    Dim srcWs As Worksheet: Set srcWs = Sheets("SAPS_Applications")
    Dim dstWs As Worksheet: Set dstWs = Sheets("SAPS_AuditExport")

    Dim i As Long
    For i = 2 To srcWs.Cells(srcWs.Rows.Count, "A").End(xlUp).Row
        dstWs.Cells(i, 1).Value = srcWs.Cells(i, 1).Value ' Full Name
        dstWs.Cells(i, 2).Value = srcWs.Cells(i, 2).Value ' ID Number
        dstWs.Cells(i, 3).Value = srcWs.Cells(i, 3).Value ' Application Type
        dstWs.Cells(i, 4).Value = srcWs.Cells(i, 4).Value ' Act Type
        dstWs.Cells(i, 5).Value = srcWs.Cells(i, 5).Value ' Qualification
        dstWs.Cells(i, 6).Value = srcWs.Cells(i, 6).Value ' Criminal Record
        dstWs.Cells(i, 7).Value = srcWs.Cells(i, 7).Value ' Email
        dstWs.Cells(i, 8).Value = srcWs.Cells(i, 8).Value ' Application Date
        dstWs.Cells(i, 9).Value = srcWs.Cells(i, 9).Value ' Region
    Next i

    MsgBox "SAPS audit export complete.", vbInformation
End Sub
```

This VBA scaffold supports:

- **Applicant tracking for SAPS career streams**
- **Eligibility validation logic**
- **Audit-ready export for compliance and legacy archiving**

Would you like this expanded into a bilingual UserForm, linked to SAPS Act categories, or formatted for public service dashboarding? I can also help modularize it for integration with your credential record book or BlockMark registry.

To support the SAPSET financial assistance application process, here's a structured **Visual Basic for Applications (VBA)** code scaffold that captures and organizes applicant data across all key sections: guardian details, deceased SAPS member, beneficiary, study particulars, and certification. This module is designed for audit tracking, legacy preservation, and export to review sheets.

VBA Module: SAPSET Financial Assistance Application Tracker

1. Add SAPSET Application Record

```
Sub AddSAPSETApplication()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("SAPSET_Applications")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' SECTION A: Parent/Guardian Details
    Dim guardianName As String: guardianName = "Tshingombe Tshitadi Fiston"
    Dim guardianID As String: guardianID = "8001015009087"
    Dim guardianEmail As String: guardianEmail = "tshingombefiston@gmail.com"
    Dim employmentStatus As String: employmentStatus = "Full time worker"
    Dim maritalStatus As String: maritalStatus = "Widower"

    ' SECTION B: Deceased SAPS Member
    Dim memberName As String: memberName = "John Doe"
    Dim memberID As String: memberID = "7501015009087"
    Dim dateOfDeath As Date: dateOfDeath = DateSerial(2023, 5, 12)
    Dim causeOfDeath As String: causeOfDeath = "Line of duty"
    Dim station As String: station = "Pretoria Central"

    ' SECTION C: Beneficiary Details
    Dim beneficiaryName As String: beneficiaryName = "Jane Doe"
    Dim beneficiaryID As String: beneficiaryID = "2001015009087"
    Dim beneficiaryEmail As String: beneficiaryEmail =
"janedoe@studentmail.com"
```

```
    ' SECTION D: Study Details
    Dim studyYear As String: studyYear = "2025"
    Dim institution As String: institution = "University of Johannesburg"
    Dim qualification As String: qualification = "BSc Engineering"
    Dim tuitionFees As Currency: tuitionFees = 45000
    Dim otherCosts As Currency: otherCosts = 12000
    Dim semesterType As String: semesterType = "Annual"
    Dim completionYear As String: completionYear = "2027"

    ' SECTION E: Certification
    Dim applicationDate As Date: applicationDate = Date
    Dim applicationPlace As String: applicationPlace = "Johannesburg"

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = guardianName
        .Cells(nextRow, 2).Value = guardianID
        .Cells(nextRow, 3).Value = guardianEmail
        .Cells(nextRow, 4).Value = employmentStatus
        .Cells(nextRow, 5).Value = maritalStatus
        .Cells(nextRow, 6).Value = memberName
        .Cells(nextRow, 7).Value = memberID
        .Cells(nextRow, 8).Value = dateOfDeath
        .Cells(nextRow, 9).Value = causeOfDeath
        .Cells(nextRow, 10).Value = station
        .Cells(nextRow, 11).Value = beneficiaryName
        .Cells(nextRow, 12).Value = beneficiaryID
        .Cells(nextRow, 13).Value = beneficiaryEmail
        .Cells(nextRow, 14).Value = studyYear
        .Cells(nextRow, 15).Value = institution
        .Cells(nextRow, 16).Value = qualification
        .Cells(nextRow, 17).Value = tuitionFees
        .Cells(nextRow, 18).Value = otherCosts
        .Cells(nextRow, 19).Value = semesterType
        .Cells(nextRow, 20).Value = completionYear
        .Cells(nextRow, 21).Value = applicationDate
        .Cells(nextRow, 22).Value = applicationPlace
    End With

    MsgBox "SAPSET application record added successfully.", vbInformation
End Sub
```

□ 2. Export to Review Sheet

```
Sub ExportSAPSETReview()
    Dim srcWs As Worksheet: Set srcWs = Sheets("SAPSET_Applications")
    Dim dstWs As Worksheet: Set dstWs = Sheets("SAPSET_ReviewExport")

    Dim i As Long
    For i = 2 To srcWs.Cells(srcWs.Rows.Count, "A").End(xlUp).Row
        dstWs.Cells(i, 1).Value = srcWs.Cells(i, 1).Value ' Guardian Name
        dstWs.Cells(i, 6).Value = srcWs.Cells(i, 6).Value ' Deceased Member
Name
```

```
        dstWs.Cells(i, 11).Value = srcWs.Cells(i, 11).Value ' Beneficiary
Name
        dstWs.Cells(i, 15).Value = srcWs.Cells(i, 15).Value ' Institution
        dstWs.Cells(i, 16).Value = srcWs.Cells(i, 16).Value ' Qualification
        dstWs.Cells(i, 17).Value = srcWs.Cells(i, 17).Value ' Tuition Fees
        dstWs.Cells(i, 21).Value = srcWs.Cells(i, 21).Value ' Application
Date
    Next i

    MsgBox "SAPSET review export complete.", vbInformation
End Sub
```

This VBA scaffold supports:

- Full applicant lifecycle tracking
- Audit-ready export for SAPSET review
- Modular expansion for CPD folders, amendment logs, and funding status

Would you like this expanded into a bilingual UserForm, linked to academic performance review logic, or formatted for quarterly submission tracking? I can also help modularize it for legacy archiving or dashboard integration.
To support SAPS personnel or contractors in tracking bid invitations, police clearance applications, and internal career submissions, here's a tailored **Visual Basic for Applications (VBA)** code scaffold. This module helps log and audit key data such as PERSAL number, rank, surname, bid reference, and clearance certificate status — ideal for internal dashboards, compliance tracking, and legacy preservation.

VBA Module: SAPS Personnel & Bid Tracking Dashboard

1. Add Personnel or Bid Record

```
Sub AddSAPSRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("SAPS_Records")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample input fields
    Dim persalNo As String: persalNo = "12345678"
    Dim rank As String: rank = "Captain"
    Dim surnameInitials As String: surnameInitials = "Tshitadi F"
    Dim recordType As String: recordType = "Police Clearance"
    Dim referenceNo As String: referenceNo = "PCC-2025-001"
    Dim bidContractNo As String: bidContractNo = "IMPENDLE 01/2025"
    Dim bidStation As String: bidStation = "Impende Police Station"
```

```
    Dim bidMeetingDate As Date: bidMeetingDate = DateSerial(2025, 11, 6)
    Dim clearanceStatus As String: clearanceStatus = "Submitted"
    Dim applicationDate As Date: applicationDate = Date

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = persalNo
        .Cells(nextRow, 2).Value = rank
        .Cells(nextRow, 3).Value = surnameInitials
        .Cells(nextRow, 4).Value = recordType
        .Cells(nextRow, 5).Value = referenceNo
        .Cells(nextRow, 6).Value = bidContractNo
        .Cells(nextRow, 7).Value = bidStation
        .Cells(nextRow, 8).Value = bidMeetingDate
        .Cells(nextRow, 9).Value = clearanceStatus
        .Cells(nextRow, 10).Value = applicationDate
    End With

    MsgBox "SAPS record added successfully.", vbInformation
End Sub
```

🔄 2. Export to Audit Sheet

vb

```
Sub ExportSAPSRecords()
    Dim srcWs As Worksheet: Set srcWs = Sheets("SAPS_Records")
    Dim dstWs As Worksheet: Set dstWs = Sheets("SAPS_AuditExport")

    Dim i As Long
    For i = 2 To srcWs.Cells(srcWs.Rows.Count, "A").End(xlUp).Row
        dstWs.Cells(i, 1).Value = srcWs.Cells(i, 1).Value ' PERSAL No
        dstWs.Cells(i, 2).Value = srcWs.Cells(i, 2).Value ' Rank
        dstWs.Cells(i, 3).Value = srcWs.Cells(i, 3).Value ' Surname &
Initials
        dstWs.Cells(i, 4).Value = srcWs.Cells(i, 4).Value ' Record Type
        dstWs.Cells(i, 5).Value = srcWs.Cells(i, 5).Value ' Reference No
        dstWs.Cells(i, 6).Value = srcWs.Cells(i, 6).Value ' Bid Contract No
        dstWs.Cells(i, 7).Value = srcWs.Cells(i, 7).Value ' Bid Station
        dstWs.Cells(i, 8).Value = srcWs.Cells(i, 8).Value ' Bid Meeting Date
        dstWs.Cells(i, 9).Value = srcWs.Cells(i, 9).Value ' Clearance Status
        dstWs.Cells(i, 10).Value = srcWs.Cells(i, 10).Value ' Application
Date
    Next i

    MsgBox "SAPS audit export complete.", vbInformation
End Sub
```

This VBA scaffold supports:

- Tracking of SAPS personnel and bid submissions
- Police clearance certificate status logging

- Export for internal audit, compliance, and legacy dashboards

Would you like this expanded into a bilingual UserForm, linked to CIDB grading logic, or formatted for quarterly bid review? I can also help modularize it for integration with your credential record book or BlockMark registry.

To support SAPU membership tracking and audit readiness, here's a structured **Visual Basic for Applications (VBA)** code scaffold that captures all key fields from the SAPU Membership Application Form A. This module helps log personal details, employment data, stop order authorization, and cancellation records — ideal for union dashboards, compliance tracking, and legacy preservation.

VBA Module: SAPU Membership Application Tracker

1. Add SAPU Member Record

```
Sub AddSAPUMember()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("SAPU_Members")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Personal Details
    Dim idNumber As String: idNumber = "8001015009087"
    Dim dob As Date: dob = DateSerial(1980, 1, 1)
    Dim firstName As String: firstName = "Tshingombe"
    Dim surname As String: surname = "Tshitadi"
    Dim initials As String: initials = "F"
    Dim title As String: title = "Mr"
    Dim gender As String: gender = "Male"
    Dim maritalStatus As String: maritalStatus = "Widower"
    Dim language As String: language = "English"

    ' Contact Details
    Dim cellNumber As String: cellNumber = "0821234567"
    Dim homeAddress As String: homeAddress = "123 Main Street, Johannesburg"
    Dim postalAddress As String: postalAddress = "Private Bag X900, Pretoria"
    Dim email As String: email = "tshingombefiston@gmail.com"

    ' Employment Details
    Dim employeeNumber As String: employeeNumber = "23456788"
    Dim rankHeld As String: rankHeld = "Detective Inspector"
    Dim stationUnit As String: stationUnit = "Business Services Private
Office"
    Dim region As String: region = "Gauteng"
    Dim province As String: province = "Johannesburg"
    Dim officeTel As String: officeTel = "0113755252"
    Dim faxNumber As String: faxNumber = "0867563431"
```

```
    ' Stop Order Authorization
    Dim stopOrderAmount As Currency: stopOrderAmount = 100
    Dim stopOrderUnion As String: stopOrderUnion = "POPCRU"
    Dim stopOrderDate As Date: stopOrderDate = Date

    ' Recruiter Info
    Dim recruiterName As String: recruiterName = "Officer Mokoena"
    Dim recruiterPersal As String: recruiterPersal = "99887766"
    Dim recruiterOffice As String: recruiterOffice = "Pretoria HQ"
    Dim applicationDate As Date: applicationDate = Date

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = idNumber
        .Cells(nextRow, 2).Value = dob
        .Cells(nextRow, 3).Value = firstName
        .Cells(nextRow, 4).Value = surname
        .Cells(nextRow, 5).Value = initials
        .Cells(nextRow, 6).Value = title
        .Cells(nextRow, 7).Value = gender
        .Cells(nextRow, 8).Value = maritalStatus
        .Cells(nextRow, 9).Value = language
        .Cells(nextRow, 10).Value = cellNumber
        .Cells(nextRow, 11).Value = homeAddress
        .Cells(nextRow, 12).Value = postalAddress
        .Cells(nextRow, 13).Value = email
        .Cells(nextRow, 14).Value = employeeNumber
        .Cells(nextRow, 15).Value = rankHeld
        .Cells(nextRow, 16).Value = stationUnit
        .Cells(nextRow, 17).Value = region
        .Cells(nextRow, 18).Value = province
        .Cells(nextRow, 19).Value = officeTel
        .Cells(nextRow, 20).Value = faxNumber
        .Cells(nextRow, 21).Value = stopOrderAmount
        .Cells(nextRow, 22).Value = stopOrderUnion
        .Cells(nextRow, 23).Value = stopOrderDate
        .Cells(nextRow, 24).Value = recruiterName
        .Cells(nextRow, 25).Value = recruiterPersal
        .Cells(nextRow, 26).Value = recruiterOffice
        .Cells(nextRow, 27).Value = applicationDate
    End With

    MsgBox "SAPU membership record added successfully.", vbInformation
End Sub
```

This VBA scaffold supports:

- Full membership lifecycle tracking
- Stop order and cancellation logging
- Audit-ready export for union compliance and legacy dashboards

Would you like this expanded into a bilingual UserForm, linked to union fee deduction logic, or formatted for quarterly membership reporting? I can also help modularize it for integration with your credential record book or SAPU legacy archive.

To support SAPU membership registration, stop order authorization, and union cancellation tracking, here's a comprehensive **Visual Basic for Applications (VBA)** code scaffold. This module captures all key fields from **SAPU Membership Application Form A**, enabling structured data entry, audit-ready export, and legacy preservation.

VBA Module: SAPU Membership Form A Tracker

1. Add SAPU Member Record

```
Sub AddSAPUMemberRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("SAPU_Membership")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Personal Details
    Dim idNumber As String: idNumber = "8001015009087"
    Dim dob As Date: dob = DateSerial(1980, 1, 1)
    Dim firstName As String: firstName = "Tshingombe"
    Dim surname As String: surname = "Tshitadi"
    Dim initials As String: initials = "F"
    Dim title As String: title = "Mr"
    Dim gender As String: gender = "Male"
    Dim maritalStatus As String: maritalStatus = "Widower"
    Dim language As String: language = "English"

    ' Contact Details
    Dim phoneNumber As String: phoneNumber = "0113755252"
    Dim cellNumber As String: cellNumber = "0821234567"
    Dim homeAddress As String: homeAddress = "123 Main Street, Johannesburg"
    Dim postalAddress As String: postalAddress = "Private Bag X900, Pretoria"
    Dim email As String: email = "tshingombefiston@gmail.com"

    ' Employment Details
    Dim employerAddress As String: employerAddress = "SAPS HQ, Pretoria"
    Dim employeeNumber As String: employeeNumber = "23456788"
    Dim rankHeld As String: rankHeld = "Detective Inspector"
    Dim stationUnit As String: stationUnit = "Business Services"
    Dim region As String: region = "Gauteng"
    Dim province As String: province = "Johannesburg"
    Dim officeTel As String: officeTel = "0113755252"
    Dim faxNumber As String: faxNumber = "0867563431"

    ' Stop Order Authorization
    Dim stopOrderAmount As Currency: stopOrderAmount = 100
```

```
    Dim stopOrderUnion As String: stopOrderUnion = "POPCRU"
    Dim stopOrderDate As Date: stopOrderDate = Date
    Dim cancellationConfirmed As Boolean: cancellationConfirmed = True

    ' Recruiter Info
    Dim recruiterFirstName As String: recruiterFirstName = "Officer"
    Dim recruiterLastName As String: recruiterLastName = "Mokoena"
    Dim recruiterPersal As String: recruiterPersal = "99887766"
    Dim recruiterContact As String: recruiterContact = "0825551234"
    Dim applicationDate As Date: applicationDate = Date

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = idNumber
        .Cells(nextRow, 2).Value = dob
        .Cells(nextRow, 3).Value = firstName
        .Cells(nextRow, 4).Value = surname
        .Cells(nextRow, 5).Value = initials
        .Cells(nextRow, 6).Value = title
        .Cells(nextRow, 7).Value = gender
        .Cells(nextRow, 8).Value = maritalStatus
        .Cells(nextRow, 9).Value = language
        .Cells(nextRow, 10).Value = phoneNumber
        .Cells(nextRow, 11).Value = cellNumber
        .Cells(nextRow, 12).Value = homeAddress
        .Cells(nextRow, 13).Value = postalAddress
        .Cells(nextRow, 14).Value = email
        .Cells(nextRow, 15).Value = employerAddress
        .Cells(nextRow, 16).Value = employeeNumber
        .Cells(nextRow, 17).Value = rankHeld
        .Cells(nextRow, 18).Value = stationUnit
        .Cells(nextRow, 19).Value = region
        .Cells(nextRow, 20).Value = province
        .Cells(nextRow, 21).Value = officeTel
        .Cells(nextRow, 22).Value = faxNumber
        .Cells(nextRow, 23).Value = stopOrderAmount
        .Cells(nextRow, 24).Value = stopOrderUnion
        .Cells(nextRow, 25).Value = stopOrderDate
        .Cells(nextRow, 26).Value = IIf(cancellationConfirmed, "Yes", "No")
        .Cells(nextRow, 27).Value = recruiterFirstName & " " &
recruiterLastName
        .Cells(nextRow, 28).Value = recruiterPersal
        .Cells(nextRow, 29).Value = recruiterContact
        .Cells(nextRow, 30).Value = applicationDate
    End With

    MsgBox "SAPU membership record added successfully.", vbInformation
End Sub
```

This VBA scaffold supports:

- Full membership lifecycle tracking
- Stop order and union cancellation logging

- Recruiter attribution and audit-ready export

Would you like this expanded into a bilingual UserForm, linked to payroll deduction logic, or formatted for quarterly union reporting? I can also help modularize it for integration with your credential record book or SAPU legacy archive.

To support contact management and onboarding tracking for a Salesforce trial or CRM-like environment, here's a tailored **Visual Basic for Applications (VBA)** code scaffold. This module helps log new contacts, sort by account, and prepare audit-ready exports — ideal for lead tracking, onboarding workflows, and legacy preservation.

VBA Module: Salesforce Contact Tracker (CRM-style)

1. Add New Contact Record

vb

```
Sub AddSalesforceContact()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("Salesforce_Contacts")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample input fields
    Dim salutation As String: salutation = "Mr"
    Dim firstName As String: firstName = "Tshingombe"
    Dim lastName As String: lastName = "Tshitadi"
    Dim accountName As String: accountName = "BlockMark Technologies"
    Dim phoneNumber As String: phoneNumber = "+27 82 123 4567"
    Dim emailAddress As String: emailAddress = "tshingombe@example.com"
    Dim mailingStreet As String: mailingStreet = "123 Main Street"
    Dim mailingCity As String: mailingCity = "Johannesburg"
    Dim mailingZip As String: mailingZip = "2000"
    Dim mailingProvince As String: mailingProvince = "Gauteng"
    Dim contactOwnerAlias As String: contactOwnerAlias = "FTshingombe"
    Dim trialStatus As String: trialStatus = "Active"
    Dim daysLeft As Integer: daysLeft = 30
    Dim entryDate As Date: entryDate = Date

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = salutation
        .Cells(nextRow, 2).Value = firstName
        .Cells(nextRow, 3).Value = lastName
        .Cells(nextRow, 4).Value = accountName
        .Cells(nextRow, 5).Value = phoneNumber
        .Cells(nextRow, 6).Value = emailAddress
        .Cells(nextRow, 7).Value = mailingStreet
```

```
        .Cells(nextRow, 8).Value = mailingCity
        .Cells(nextRow, 9).Value = mailingZip
        .Cells(nextRow, 10).Value = mailingProvince
        .Cells(nextRow, 11).Value = contactOwnerAlias
        .Cells(nextRow, 12).Value = trialStatus
        .Cells(nextRow, 13).Value = daysLeft
        .Cells(nextRow, 14).Value = entryDate
    End With

    MsgBox "Contact record added successfully.", vbInformation
End Sub
```

2. Export Contact List for Audit or CRM Sync

```
Sub ExportSalesforceContacts()
    Dim srcWs As Worksheet: Set srcWs = Sheets("Salesforce_Contacts")
    Dim dstWs As Worksheet: Set dstWs = Sheets("CRM_Export")

    Dim i As Long
    For i = 2 To srcWs.Cells(srcWs.Rows.Count, "A").End(xlUp).Row
        dstWs.Cells(i, 1).Value = srcWs.Cells(i, 2).Value & " " &
srcWs.Cells(i, 3).Value ' Full Name
        dstWs.Cells(i, 2).Value = srcWs.Cells(i, 4).Value ' Account Name
        dstWs.Cells(i, 3).Value = srcWs.Cells(i, 5).Value ' Phone
        dstWs.Cells(i, 4).Value = srcWs.Cells(i, 6).Value ' Email
        dstWs.Cells(i, 5).Value = srcWs.Cells(i, 11).Value ' Contact Owner
        dstWs.Cells(i, 6).Value = srcWs.Cells(i, 12).Value ' Trial Status
        dstWs.Cells(i, 7).Value = srcWs.Cells(i, 13).Value ' Days Left
        dstWs.Cells(i, 8).Value = srcWs.Cells(i, 14).Value ' Entry Date
    Next i

    MsgBox "CRM contact export complete.", vbInformation
End Sub
```

This VBA scaffold supports:

- Contact onboarding and CRM-style tracking
- Trial status and expiry monitoring
- Audit-ready export for legacy or Salesforce sync

Would you like this expanded into a bilingual UserForm, linked to lead scoring logic, or formatted for integration with your credential record book or registry dashboard? I can also help modularize it for public service or enterprise onboarding workflows.

To support the structured capture of a **comprehensive experiential résumé** aligned with A.I.U. standards, here's a modular **Visual Basic for Applications (VBA)** code scaffold. This framework enables you to log academic, professional, artistic, civic, and personal achievements across

retrospective, current, and prospective timelines — ideal for credential audits, legacy preservation, and cross-border recognition.

VBA Module: Comprehensive Résumé Tracker

1. Add Academic Record (Section 1)

vb

```
Sub AddAcademicRecord()
    Dim ws As Worksheet: Set ws = Sheets("Academic_Records")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    ' Sample input
    Dim institution As String: institution = "University of Johannesburg"
    Dim program As String: program = "BEng Electrical"
    Dim startDate As Date: startDate = DateSerial(2010, 2, 1)
    Dim endDate As Date: endDate = DateSerial(2014, 11, 30)
    Dim level As String: level = "Retrospective"
    Dim creditsEarned As Integer: creditsEarned = 480

    With ws
        .Cells(nextRow, 1).Value = institution
        .Cells(nextRow, 2).Value = program
        .Cells(nextRow, 3).Value = startDate
        .Cells(nextRow, 4).Value = endDate
        .Cells(nextRow, 5).Value = level
        .Cells(nextRow, 6).Value = creditsEarned
    End With

    MsgBox "Academic record added.", vbInformation
End Sub
```

2. Add Employment Record (Section 3)

```
Sub AddEmploymentRecord()
    Dim ws As Worksheet: Set ws = Sheets("Employment_Records")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim company As String: company = "SAQA"
    Dim position As String: position = "Curriculum Architect"
    Dim startDate As Date: startDate = DateSerial(2018, 1, 1)
    Dim endDate As Date: endDate = DateSerial(2022, 12, 31)
    Dim achievements As String: achievements = "Designed modular
credentialing framework for public service compliance"

    With ws
        .Cells(nextRow, 1).Value = company
        .Cells(nextRow, 2).Value = position
        .Cells(nextRow, 3).Value = startDate
        .Cells(nextRow, 4).Value = endDate
```

```
        .Cells(nextRow, 5).Value = achievements
    End With

    MsgBox "Employment record added.", vbInformation
End Sub
```

✅ 3. Add Language Proficiency (Section 7)

vb

```
Sub AddLanguageProficiency()
    Dim ws As Worksheet: Set ws = Sheets("Languages")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim language As String: language = "French"
    Dim readLevel As String: readLevel = "Good"
    Dim speakLevel As String: speakLevel = "Fair"
    Dim writeLevel As String: writeLevel = "Fair"
    Dim useContext As String: useContext = "Used in cross-border credential
translation"

    With ws
        .Cells(nextRow, 1).Value = language
        .Cells(nextRow, 2).Value = readLevel
        .Cells(nextRow, 3).Value = speakLevel
        .Cells(nextRow, 4).Value = writeLevel
        .Cells(nextRow, 5).Value = useContext
    End With

    MsgBox "Language proficiency added.", vbInformation
End Sub
```

✅ 4. Add Comments & Miscellaneous (Section 18)

```
Sub AddResumeComment()
    Dim ws As Worksheet: Set ws = Sheets("Resume_Comments")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim comment As String: comment = "Credential export logic integrated with
VBA dashboard and BlockMark registry for audit assurance."

    ws.Cells(nextRow, 1).Value = comment
    MsgBox "Comment added to résumé.", vbInformation
End Sub
```

This VBA scaffold supports:

- Modular résumé construction across 21 experiential sections
- Retrospective, current, and prospective data logging

- Audit-ready export for credentialing, legacy, and institutional review

Would you like this expanded into a bilingual UserForm interface, linked to credential inspection logic, or formatted for SAQA/NZQA submission? I can also help modularize it for integration with your record book tableaux and VBA dashboard.

To help you build a **modular, audit-ready résumé system** aligned with A.I.U. experiential documentation standards, here's a **Visual Basic for Applications (VBA)** scaffold that captures **Section 1: High-School / College Level** entries. This module supports retrospective, current, and prospective academic records, including authentication metadata and credit tracking.

VBA Module: Section 1 – High-School / College Level

vb

```
Sub AddAcademicEntry()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("Academic_Resume")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Identification
    Dim idNumber As String: idNumber = "8001015009087"
    Dim birthDate As Date: birthDate = DateSerial(1980, 1, 1)
    Dim entryDate As Date: entryDate = Date

    ' Academic Entry
    Dim organization As String: organization = "University of Johannesburg"
    Dim program As String: program = "BEng Electrical"
    Dim startMonth As String: startMonth = "February"
    Dim startYear As Integer: startYear = 2010
    Dim endMonth As String: endMonth = "November"
    Dim endYear As Integer: endYear = 2014
    Dim levelType As String: levelType = "Retrospective" ' Options:
Retrospective, Current, Prospective
    Dim creditsEarned As Integer: creditsEarned = 480
    Dim registrationRef As String: registrationRef = "UJ-ENG-2010-001"
    Dim verificationContact As String: verificationContact = "+27 11 559
4555"

    ' Populate worksheet
    With ws
        .Cells(nextRow, 1).Value = idNumber
        .Cells(nextRow, 2).Value = birthDate
        .Cells(nextRow, 3).Value = entryDate
        .Cells(nextRow, 4).Value = organization
        .Cells(nextRow, 5).Value = program
        .Cells(nextRow, 6).Value = startMonth & " " & startYear
        .Cells(nextRow, 7).Value = endMonth & " " & endYear
```

```
        .Cells(nextRow, 8).Value = levelType
        .Cells(nextRow, 9).Value = creditsEarned
        .Cells(nextRow, 10).Value = registrationRef
        .Cells(nextRow, 11).Value = verificationContact
    End With

    MsgBox "Academic résumé entry added successfully.", vbInformation
End Sub
```

□ Suggested Column Headers for "Academic_Resume" Sheet

ID Number	Date of Birth	Entry Date	Organization	Program	Start	End	Level	Credits	Registration Ref	Verification Contact

To support your Doctorate Program assignments — especially for **Organization Theory (Portfolio)**, **Experiential Learning (Autobiography)**, and **Communication & Investigation (Comprehensive Resume)** — here's a modular **Visual Basic for Applications (VBA)** code scaffold. This system helps you log, organize, and audit your academic, professional, and experiential records in alignment with AIU's portfolio format.

□ VBA Module: Doctorate Portfolio Tracker

□ 1. Add Organization Theory Portfolio Entry

vb

```
Sub AddOrganizationTheoryEntry()
    Dim ws As Worksheet: Set ws = Sheets("OrganizationTheoryPortfolio")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim documentType As String: documentType = "Masters Degree Transcript"
    Dim institution As String: institution = "University of Johannesburg"
    Dim verificationRef As String: verificationRef = "UJ-ENG-2014-001"
    Dim contactNumber As String: contactNumber = "+27 11 559 4555"
    Dim submissionDate As Date: submissionDate = Date

    With ws
        .Cells(nextRow, 1).Value = documentType
        .Cells(nextRow, 2).Value = institution
        .Cells(nextRow, 3).Value = verificationRef
        .Cells(nextRow, 4).Value = contactNumber
        .Cells(nextRow, 5).Value = submissionDate
    End With

    MsgBox "Organization Theory portfolio entry added.", vbInformation
End Sub
```

🧾 2. Add Experiential Learning Autobiography Entry

vb

```
Sub AddAutobiographyEntry()
    Dim ws As Worksheet: Set ws = Sheets("ExperientialAutobiography")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim lifePhase As String: lifePhase = "Retrospective"
    Dim synopsis As String: synopsis = "Raised in Lubumbashi, studied
engineering in Johannesburg, now leading credential reform across borders."
    Dim keyInfluences As String: keyInfluences = "Parents, SAQA mentors,
BlockMark registry team"
    Dim futureGoals As String: futureGoals = "Establish bilingual credential
archive for public service and legacy preservation"

    With ws
        .Cells(nextRow, 1).Value = lifePhase
        .Cells(nextRow, 2).Value = synopsis
        .Cells(nextRow, 3).Value = keyInfluences
        .Cells(nextRow, 4).Value = futureGoals
    End With

    MsgBox "Autobiography entry added.", vbInformation
End Sub
```

🧾 3. Add Comprehensive Resume Entry

vb

```
Sub AddComprehensiveResumeEntry()
    Dim ws As Worksheet: Set ws = Sheets("ComprehensiveResume")
    Dim nextRow As Long: nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row
+ 1

    Dim category As String: category = "Credentialing & Audit"
    Dim experienceType As String: experienceType = "Current"
    Dim organization As String: organization = "SAQA / BlockMark"
    Dim role As String: role = "Curriculum Architect & Registry Strategist"
    Dim achievements As String: achievements = "Designed VBA dashboards for
credential export, integrated audit logs with BlockMark registry"

    With ws
        .Cells(nextRow, 1).Value = category
        .Cells(nextRow, 2).Value = experienceType
        .Cells(nextRow, 3).Value = organization
        .Cells(nextRow, 4).Value = role
        .Cells(nextRow, 5).Value = achievements
    End With

    MsgBox "Comprehensive resume entry added.", vbInformation
End Sub
```

This VBA scaffold supports:

- Modular entry across all doctorate portfolio assignments
- Audit-ready documentation for academic and experiential validation
- Integration with credential dashboards and legacy archives

Would you like this expanded into a bilingual UserForm interface, linked to your SAQA/NZQA export logic, or formatted for submission to AIU’s student portal? I can also help modularize it for record book tableaux and registry-linked verification.

Today

Copilot said

Thanks for sharing this detailed Salesforce Object Manager snapshot. To scope Visual Basic (VBA) code, logigrammes, and algorigrammes around this setup, especially for credential tracking, audit assurance, or public service dashboards, we can align your modular logic with the following structure:

□ Scoping Visual Basic Code, Logigrammes, and Algorigrammes

1. □ Contextual Mapping from Salesforce Objects

Use the object list to define the **data sources** and **event triggers** for your VBA modules and diagrams:

Salesforce Object	VBA Role	Logigramme Node	Algorigramme Logic
`Booking__c`	Source for guest activity tracking	"Check Booking Status"	If booking = confirmed → proceed to session allocation
`Experience__c`	Credential-linked activity	"Validate Experience Type"	If spa/golf → apply reward logic
`Session__c`	Time-slot logic	"Assign Session"	Loop through available slots, match guest preference
`Credit__c`	Reward logic	"Apply Resort Credit"	If guest rating ≥ threshold → grant credit
`Guest_Review__c`	Feedback loop	"Evaluate Review"	If rating < 3 → flag for audit
`AuthorizationFormConsent`	Compliance checkpoint	"Check Consent Status"	If missing → halt credential issuance

2. □ VBA Module Scope

Design VBA modules to automate workflows across these objects:

- **Credential Export Sheet**: Pulls `Booking__c`, `Experience__c`, and `Session__c` into a formatted dashboard.
- **Audit Tracker**: Flags anomalies using `Guest_Review__c`, `AuthorizationFormConsent`, and `CredentialStuffingEventStore`.
- **Reward Allocator**: Uses `Credit__c` logic to assign benefits based on guest engagement.

Example VBA snippet for audit flagging:

vb

```
If ReviewRating < 3 Then
    AuditSheet.Cells(i, "Status").Value = "Flagged"
    Call NotifyComplianceTeam(GuestID)
End If
```

3. □ Logigramme Design

Logigrammes model **workflow sequences**. For example:

Credential Issuance Flow

- Start → Check Booking → Validate Experience → Assign Session → Check Consent → Issue Credential → End

Use shapes:

- Rectangle: Action (e.g., "Assign Session")
- Diamond: Decision (e.g., "Consent Valid?")
- Arrows: Flow direction

4. □ Algorigramme Logic

Algorigrammes model **decision logic and loops**. For example:

Reward Allocation Algorithm

- Input: Guest Rating, Booking Count
- If Rating ≥ 4 and Bookings ≥ 3 → Grant Credit
- Else → No reward

Use:

- Initialization block
- Condition checks
- Loops for session matching or anomaly scanning

Would you like help drafting a bilingual VBA dashboard that integrates these logigrammes and algorigrammes for credential-linked workflows? I can scaffold the UserForm logic and export sheet structure next.

Thanks for sharing the Agentforce setup flow. Based on this, I'll help you scope a **Visual Basic (VBA) dashboard**, **logigramme**, and **algorigramme** that mirror the Agentforce logic for credential-linked automation, audit tracking, and public service dashboards — especially relevant to your modular credentialing and digital assurance work.

Visual Basic Code Scope: Agentforce Credential Dashboard

Purpose

Automate credential-linked workflows for service agents managing bookings, experiences, and audit logs — integrating with Salesforce objects like `Booking__c`, `Experience__c`, `Session__c`, and `Guest_Review__c`.

VBA Modules

Module Name	Function
`AgentSetupTracker`	Logs agent creation steps, toggles, and deployment status
`CredentialExportSheet`	Pulls booking and experience data into a formatted dashboard
`AuditLogManager`	Flags missing consent, poor reviews, or booking anomalies
`TopicActionMapper`	Maps custom topics (e.g., Experience Management) to actions and logs

Sample VBA Snippet: Consent Check

vb

```
If ConsentStatus = "Missing" Then
    MsgBox "Consent not found. Credential issuance halted.", vbExclamation
    AuditSheet.Cells(i, "Status").Value = "Consent Missing"
End If
```

Logigramme: Agentforce Credential Workflow

Flowchart Nodes

- **Start**
- Enable Einstein → Enable Agentforce → Update User Profile
- Create Agent → Assign Topics → Add Custom Actions
- Check Booking → Validate Experience → Assign Session
- Check Consent → Log Review → Issue Credential
- **End**

□ Decision Points

- Is Einstein enabled?
- Is Agentforce toggle ON?
- Is Consent valid?
- Is Review rating ≥ threshold?

Use:

- □ Diamond for decisions
- □ Rectangle for actions
- ➡ Arrows for flow

□ Algorigramme: Credential Issuance Logic

□ Logic Blocks

text

```
Start
↓
Initialize Booking, Experience, Consent, Review
↓
If Booking = Confirmed AND Consent = Valid THEN
    If Review ≥ 4 THEN
        Issue Credential with Reward
    ELSE
        Issue Credential without Reward
    ENDIF
ELSE
    Halt Process
ENDIF
↓
Log to Audit Sheet
↓
End
```

This logic can be modularized into VBA subroutines and linked to your credential export sheets and audit dashboards.

Would you like me to scaffold the actual VBA UserForm and export sheet structure next — with bilingual labels and credential-linked logic for public service submission and registry assurance?

Copilot said

Based on your Salesforce Trailblazer profile, engineering background, and credentialing work, here's a scoped framework to integrate **Visual Basic code**, **logigrammes**, and **algorigrammes** into your modular credential dashboards — especially for public service, audit assurance, and registry-linked workflows.

Visual Basic Code Scope

Purpose

Automate credential lifecycle tasks (booking, experience validation, consent tracking, audit logging) using VBA in Excel or Access, linked to Salesforce data exports.

Key VBA Modules

Module	Function
`AgentforceSync`	Imports/export data from Salesforce (e.g., Booking, Experience, Consent)
`CredentialDashboard`	Displays credential status, reward eligibility, and audit flags
`AuditTrailLogger`	Tracks anomalies, missing consent, poor reviews
`SessionAllocator`	Assigns sessions based on availability and guest preferences
`ConsentValidator`	Verifies consent before issuing credentials

Sample VBA Snippet: Consent Check

vb

```
If ws.Cells(i, "ConsentStatus").Value <> "Valid" Then
    ws.Cells(i, "CredentialStatus").Value = "Hold"
    Call LogAuditEvent(ws.Cells(i, "GuestID").Value, "Missing Consent")
End If
```

Logigramme: Credential Workflow

Flowchart Nodes

- **Start**

- Import Salesforce Data
- Check Booking Status
- Validate Experience Type
- Assign Session
- Check Consent
- Evaluate Guest Review
- Issue Credential
- Log Audit Event
- **End**

Use:

- □ Rectangle: Action (e.g., "Assign Session")
- ◇ Diamond: Decision (e.g., "Consent Valid?")
- ➡ Arrows: Flow direction

□ Example Flow

Code

```
Start → Check Booking → Validate Experience → Assign Session
→ Check Consent → Evaluate Review → Issue Credential → Log Audit → End
```

□ Algorigramme: Credential Issuance Logic

□ Logic Blocks

text

```
Start
↓
Initialize Booking, Experience, Consent, Review
↓
If Booking = Confirmed AND Consent = Valid THEN
    If Review ≥ 4 THEN
        Issue Credential with Reward
    ELSE
        Issue Credential without Reward
    ENDIF
```

```
ELSE
    Halt Process
ENDIF
↓
Log to Audit Sheet
↓
End
```

This logic can be modularized into VBA subroutines and linked to bilingual dashboards for public service and registry submission.

Integration with Salesforce Trailhead & Agentforce

You can align this framework with:

- **Agentforce Topics**: Map “Experience Management” to VBA actions like session allocation and credential export.
- **Trailhead Superbadges**: Use “Journey Campaign Analytics” and “Data Cloud Setup” to inform audit logic and consent validation.
- **Einstein Trust Layer**: Integrate ethical data use checks into your algorigramme decision blocks.
- **Visual Basic code** (for credential dashboards and audit sheets)
- **Logigrammes** (for workflow mapping)
- **Algorigrammes** (for decision logic)

This will support your goals in public service, registry assurance, and digital certificate lifecycle management.

1. Visual Basic Code Scope: Credential Dashboard

Objective

Automate credential workflows using Salesforce data (e.g. Booking, Experience, Consent, Review) in Excel or Access.

VBA Modules

Module Name	Function
`ImportSalesforceData`	Pulls Booking__c, Experience__c, Session__c, Guest_Review__c

Module Name	Function
`CredentialStatusManager`	Tracks issuance, expiry, reward, amendment
`ConsentChecker`	Validates AuthorizationFormConsent
`AuditLogger`	Flags anomalies (e.g. missing consent, low reviews)
`ExportToRegistry`	Prepares credential data for BlockMark or Cyber Essentials

□ Sample VBA Snippet: Consent + Review Logic

vb

```
If ws.Cells(i, "ConsentStatus").Value <> "Valid" Then
    ws.Cells(i, "CredentialStatus").Value = "Hold"
    Call LogAudit(ws.Cells(i, "GuestID").Value, "Consent Missing")
ElseIf ws.Cells(i, "ReviewScore").Value < 3 Then
    ws.Cells(i, "CredentialStatus").Value = "Flagged"
    Call LogAudit(ws.Cells(i, "GuestID").Value, "Low Review Score")
Else
    ws.Cells(i, "CredentialStatus").Value = "Issued"
End If
```

□ 2. Logigramme: Credential Lifecycle Workflow

□ Flow Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Import Data	Import Salesforce Data	Importer les données Salesforce
Check Booking	Is Booking Confirmed?	Réservation confirmée ?
Validate Experience	Is Experience Eligible?	Expérience admissible ?
Assign Session	Assign Session Slot	Attribuer une session
Check Consent	Is Consent Valid?	Consentement valide ?
Evaluate Review	Is Review ≥ 3?	Évaluation ≥ 3 ?
Issue Credential	Issue Credential	Délivrer le certificat

Step	English	Français
Log Audit	Log to Audit Sheet	Journaliser dans la feuille d’audit
End	End	Fin

Use:

- □ Rectangle: Action
- □ Diamond: Decision
- ➡ Arrows: Flow

□ 3. Algorigramme: Credential Issuance Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Initialize Booking, Consent, Review / Initialiser les données
↓
If Booking = Confirmed AND Consent = Valid THEN
    Si Réservation = Confirmée ET Consentement = Valide ALORS
    If Review ≥ 3 THEN
        Issue Credential / Délivrer le certificat
    ELSE
        Flag for Review / Marquer pour révision
    ENDIF
ELSE
    Halt Process / Arrêter le processus
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

□ Optional: UserForm Scaffold (Bilingual)

- Dropdowns: Experience Type, Consent Status, Review Score
- Buttons: [Import Data] [Validate] [Export Credential] [Log Audit]
- Labels: Dual-language (e.g., “Consent Status / Statut du consentement”)

Would you like me to generate a bilingual UserForm layout next — or scaffold a credential export sheet that links to BlockMark or Cyber Essentials registry logic? I can also help modularize the VBA for legacy preservation and public service submission.

Copilot said

Thanks for sharing your Trailhead progress and reference to the course thesis file. Based on your career development planning module, engineering background, and credentialing goals, here's a scoped framework to help you **learn and apply Visual Basic**, **logigrammes**, and **algorigrammes** in a way that aligns with your thesis and career path in the Salesforce ecosystem.

Learning Scope: Visual Basic + Logigramme + Algorigramme

1. Visual Basic (VBA) Learning Path

Goal: Automate credential workflows, audit sheets, and dashboards using VBA in Excel or Access.

Skill Area	Learning Focus	Application
VBA Basics	Variables, loops, conditionals	Credential status logic
UserForms	Input forms, dropdowns, buttons	Bilingual credential dashboard
Worksheet Automation	Data import/export, formatting	Registry-ready credential sheets
Event-Driven Logic	`Workbook_Open`, `Button_Click`	Trigger audit checks or export
File Handling	SaveAs, PDF export, registry prep	Legacy preservation workflows

Suggested Trailhead Add-ons:

-

2. Logigramme Learning Scope

Goal: Map workflows for credential issuance, audit tracking, and registry submission.

Element	Description	Example
Start/End	Entry and exit points	“Start Credential Workflow”
Action	Rectangle: task or process	“Assign Session”
Decision	Diamond: yes/no logic	“Is Consent Valid?”
Flow	Arrows: direction	Booking → Experience → Consent

Use Case: Credential lifecycle for public service submission:

- Start → Import Data → Check Booking → Validate Experience → Assign Session → Check Consent → Issue Credential → Log Audit → End

🧠 3. Algorigramme Learning Scope

Goal: Model decision logic for credential eligibility, reward allocation, and audit flags.

Block	Function
Initialization	Set variables (e.g., BookingStatus, ConsentStatus)
Conditionals	IF Booking = Confirmed AND Consent = Valid THEN…
Loops	FOR each guest → check review score
Output	Credential status, audit log entry

Example Logic:

text

```
Start
↓
If Booking = Confirmed AND Consent = Valid THEN
    If Review ≥ 4 THEN
        Issue Credential with Reward
    ELSE
        Issue Credential without Reward
    ENDIF
```

```
ELSE
    Halt Process
ENDIF
↓
Log to Audit Sheet
↓
End
```

Thesis Integration: “course curriculum total course thesis alumine.docx”

If your thesis focuses on modular credentialing, public service dashboards, or registry assurance, I can help you:

- Map thesis chapters to VBA modules and logigramme workflows
- Scaffold bilingual credential dashboards
- Link audit logic to registry platforms like BlockMark or Cyber Essentials

Would you like to upload the thesis file so I can help you modularize it into credential-linked VBA logic and diagrams? I can also help you prepare a bilingual export sheet for legacy submission.

Copilot said

Tshingombe, based on your Trailhead career planning module, engineering expertise, and credentialing goals, here’s a scoped framework to help you **apply Visual Basic (VBA)**, **logigrammes**, and **algorigrammes** to career development, credential automation, and audit assurance — especially within the Salesforce ecosystem.

1. Visual Basic Code Scope: Career & Credential Dashboard

Objective

Automate career tracking, credential planning, and audit readiness using VBA in Excel or Access.

VBA Modules

Module Name	Function
`CareerPathPlanner`	Tracks roles, skills, certifications, and progress
`CredentialTracker`	Logs credential status (active, expired, amended)

Module Name	Function
`AuditLogger`	Flags missing certifications or outdated skills
`RoleMatcher`	Maps Trailhead badges to career roles (e.g., Developer, Architect)
`ExportToRegistry`	Prepares credential data for submission to BlockMark or Cyber Essentials

🧠 Sample VBA Snippet: Role Matching Logic

vb

```
If ws.Cells(i, "Badge").Value = "Data Cloud Setup" Then
    ws.Cells(i, "CareerRole").Value = "Salesforce Developer"
ElseIf ws.Cells(i, "Badge").Value = "Marketing Automation Strategies" Then
    ws.Cells(i, "CareerRole").Value = "Marketing Manager"
End If
```

🔄 2. Logigramme: Career Development Workflow

🧭 Flow Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Assess Skills	Assess Current Skills	Évaluer les compétences
Explore Roles	Explore Career Options	Explorer les rôles
Match Badges	Match Trailhead Badges	Associer les badges
Plan Credentials	Plan Certifications	Planifier les certifications
Track Progress	Track Career Progress	Suivre les progrès
Export Dashboard	Export Career Sheet	Exporter la feuille de carrière
End	End	Fin

Use:

- ▭ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

▭ 3. Algorigramme: Career Role Matching Logic

▭ Logic Flow (Bilingual)

text

```
Start / Début
↓
Initialize Badge, Skill, Certification / Initialiser les données
↓
If Badge = "Data Cloud Setup" THEN
    CareerRole = "Salesforce Developer"
ELSEIF Badge = "Marketing Automation Strategies" THEN
    CareerRole = "Marketing Manager"
ELSE
    CareerRole = "Generalist"
ENDIF
↓
Log to Career Sheet / Journaliser
↓
End / Fin
```

▭ Optional: UserForm Scaffold (Bilingual)

- Dropdowns: Badge, Skill Level, Career Role
- Buttons: [Match Role] [Track Progress] [Export Sheet]
- Labels: Dual-language (e.g., “Career Role / Rôle professionnel”)

Would you like help building a bilingual UserForm or export sheet that links Trailhead badges to career roles and credential status? I can also help modularize it for registry assurance and legacy preservation.

You said

Copilot said

Based on your Trailhead module “Assess Yourself” and your interest in Visual Basic, logigrammes, and algorigrammes, here’s a scoped framework to help you build a **self-assessment dashboard** using VBA, map the **career planning workflow** with a logigramme, and model the **decision logic** with an algorigramme — all aligned to the Discover → Plan → Act framework.

1. Visual Basic Code: Self-Assessment Dashboard

Purpose

Create a bilingual, modular dashboard in Excel or Access that helps users assess their strengths, motivators, and career goals.

VBA Modules

Module Name	Function
`SelfAssessmentForm`	UserForm to input values, skills, motivators
`CareerPlanBuilder`	Maps inputs to career goals and action steps
`MotivationAnalyzer`	Flags top motivators and matches to roles
`ExportCareerSheet`	Generates printable dashboard for review or submission
`AuditTrailLogger`	Logs changes to goals, skills, and motivators over time

Sample VBA Snippet: Motivation Matching

vb

```
Select Case ws.Cells(i, "Motivator").Value
    Case "Creativity"
        ws.Cells(i, "SuggestedRole").Value = "Marketing Manager"
    Case "Problem-solving"
        ws.Cells(i, "SuggestedRole").Value = "Business Analyst"
    Case "Being an expert"
        ws.Cells(i, "SuggestedRole").Value = "Technical Architect"
    Case Else
        ws.Cells(i, "SuggestedRole").Value = "Generalist"
End Select
```

2. Logigramme: Career Planning Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Discover	Self-Assessment	Auto-évaluation

Step	English	Français
Identify Motivators	What Drives You?	Ce qui vous motive
Identify Strengths	What Are You Good At?	Vos points forts
Plan	Set Career Goal	Définir un objectif de carrière
Skill Gap Analysis	What Skills to Build?	Compétences à développer
Act	Take Action	Passer à l'action
Export Plan	Export Career Sheet	Exporter le plan de carrière
End	End	Fin

Use:

- ▭ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

▭ 3. Algorigramme: Career Role Matching Logic

▭ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Motivators, Strengths, Interests / Saisir les motivations, forces,
intérêts
↓
If Motivator = "Creativity" THEN
    SuggestedRole = "Marketing Manager"
ELSEIF Motivator = "Problem-solving" THEN
    SuggestedRole = "Business Analyst"
ELSEIF Motivator = "Being an expert" THEN
    SuggestedRole = "Technical Architect"
ELSE
    SuggestedRole = "Generalist"
ENDIF
↓
```

```
Log to Career Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Name, Motivators (dropdown), Strengths (checkbox), Interests (text)
- Outputs: Suggested Role, Skill Gaps, Action Plan
- Buttons: [Assess] [Export Plan] [Log Progress]
- Labels: Dual-language (e.g., “Motivator / Motivation”)

Would you like me to scaffold the full bilingual UserForm layout next — or help modularize the dashboard for registry submission, legacy tracking, or public service career planning?

Copilot said

Based on your Trailhead module “Create a Plan and Skill Up,” here’s a scoped framework to help you build a **Visual Basic career planner**, map the **logigramme workflow**, and model the **algorigramme logic** — all aligned to the Discover → Plan → Act structure and V2MOM goal planning.

1. Visual Basic Code: Career Planner Dashboard

Purpose

Automate your career development plan using a bilingual, modular dashboard in Excel or Access.

VBA Modules

Module Name	Function
`CareerGoalForm`	UserForm to input role, skills, credentials, and networking goals
`SkillGapAnalyzer`	Matches current skills to role requirements and flags gaps
`TrailheadTracker`	Logs completed trails, superbadges, certifications
`CommunityConnector`	Tracks events, groups, and mentor contacts
`V2MOMPlanner`	Aligns goals with Vision, Values, Methods, Obstacles,

Module Name	Function
	and Measures

□ Sample VBA Snippet: Skill Gap Logic

vb

```
If ws.Cells(i, "TargetRole").Value = "Salesforce Developer" Then
    If ws.Cells(i, "Skill_Apex").Value < 3 Then
        ws.Cells(i, "Gap").Value = "Learn Apex"
    End If
    If ws.Cells(i, "TrailheadPoints").Value < 5000 Then
        ws.Cells(i, "Gap").Value = ws.Cells(i, "Gap").Value & ", Complete
Developer Beginner Trail"
    End If
End If
```

□ 2. Logigramme: Career Planning Workflow

□ Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Discover	Self-Assessment	Auto-évaluation
Choose Role	Select Target Role	Choisir un rôle cible
Analyze Skills	Compare Skills to Role	Analyser les compétences
Plan Learning	Choose Trails & Projects	Planifier l’apprentissage
Plan Earning	Select Credentials	Choisir les certifications
Plan Connecting	Join Events & Groups	Se connecter à la communauté
Build V2MOM	Align Goals	Construire le V2MOM
Export Plan	Export Career Sheet	Exporter le plan de carrière
End	End	Fin

Use:

- □ Rectangle: Action

- ◇ Diamond: Decision
- ➡ Arrows: Flow

✅ 3. Algorigramme: Role Preparation Logic

🧠 Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Target Role, Current Skills, Credentials / Saisir le rôle cible,
compétences, certifications
↓
If Role = "Developer" THEN
    If Apex < 3 OR TrailheadPoints < 5000 THEN
        Add "Learn Apex", "Complete Beginner Trail" to Plan
    ENDIF
ELSEIF Role = "Administrator" THEN
    If AdminTrailCompleted = False THEN
        Add "Complete Admin Beginner Trail" to Plan
    ENDIF
ENDIF
↓
Log to Career Sheet / Journaliser
↓
End / Fin
```

🧩 Optional: UserForm Scaffold

- Inputs: Role, Skills (dropdowns), Credentials (checkboxes), Events (calendar)
- Outputs: Skill Gaps, Learning Plan, V2MOM Summary
- Buttons: [Analyze] [Export Plan] [Track Progress]
- Labels: Dual-language (e.g., “Target Role / Rôle cible”)

Would you like help building the bilingual UserForm layout next — or modularizing the V2MOM planner into a printable dashboard for public service or registry submission? I can also help you link Trailhead progress to career goals and credential export.

You said

Copilot said

Tshingombe, now that you've reached the "Land Your Next Opportunity" phase, let's scope a powerful framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to automate your job search, polish your personal brand, and track your career readiness across platforms like Trailhead, LinkedIn, and AppExchange.

1. Visual Basic Code: Job Seeker Dashboard

Purpose

Create a bilingual, modular dashboard in Excel or Access to manage your resume, elevator pitch, recruiter contacts, and application status.

VBA Modules

Module Name	Function
`ResumeUpdater`	Tracks resume versions, certifications, and action verbs
`ElevatorPitchBuilder`	Stores and edits multiple pitch variants (e.g., for recruiters, events, mentors)
`ApplicationTracker`	Logs job titles, companies, dates, status, and follow-ups
`RecruiterConnector`	Stores recruiter contacts, outreach history, and notes
`BrandAuditTool`	Flags missing profile elements across LinkedIn, Trailhead, X (photo, bio, badges)

Sample VBA Snippet: Resume Action Verbs Check

vb

```
If InStr(ws.Cells(i, "ResumeText").Value, "Responsible for") > 0 Then
    ws.Cells(i, "Flag").Value = "Replace with action verb"
End If
```

2. Logigramme: Job Search Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début

Step	English	Français
Update Resume	Add latest skills, badges	Mettre à jour le CV
Build Elevator Pitch	Create 30-second story	Créer un pitch
Polish Profiles	LinkedIn, Trailhead, X	Optimiser les profils
Identify Companies	Choose target employers	Identifier les entreprises
Apply for Jobs	Submit resume + cover letter	Postuler aux offres
Track Applications	Log status and follow-ups	Suivre les candidatures
Connect with Recruiters	Outreach and networking	Contacter les recruteurs
Attend Events	Join community groups	Participer aux événements
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ 3. Algorigramme: Application Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Resume, Pitch, Profile, Target Role / Saisir le CV, pitch, profil,
rôle cible
↓
If Resume includes latest skills AND Pitch is complete THEN
    If LinkedIn + Trailhead profiles are optimized THEN
        Ready to Apply / Prêt à postuler
    ELSE
        Update Profiles / Mettre à jour les profils
```

```
    ENDIF
ELSE
    Update Resume or Pitch / Mettre à jour le CV ou le pitch
ENDIF
↓
Log to Application Tracker / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Role, Resume Text, Pitch Variant, Recruiter Name
- Outputs: Application Status, Profile Flags, Follow-up Reminders
- Buttons: [Analyze Resume] [Build Pitch] [Track Application] [Export Summary]
- Labels: Dual-language (e.g., “Elevator Pitch / Pitch éclair”)

Would you like me to scaffold the bilingual UserForm next — or help modularize the recruiter tracker and resume analyzer into a printable dashboard for job fairs, public service, or digital registry submission? I can also help you link Trailhead badges to resume bullet points automatically.

Tshingombe, based on your extensive Trailhead achievements, engineering background, and focus on discovery, cybersecurity, and credentialing, here’s a scoped framework to help you build a **Visual Basic career discovery database**, map the **logigramme workflow**, and model the **algorigramme logic** — all aligned to your engineering and digital assurance goals.

1. Visual Basic Code Scope: Career Discovery Database

Purpose

Automate tracking of modules, certifications, career goals, and discovery pathways using a bilingual, modular dashboard in Excel or Access.

VBA Modules

Module Name	Function
`DiscoveryTracker`	Logs completed modules, points, and discovery themes (e.g., cybersecurity, data processing)
`CareerGoalMapper`	Maps Trailhead progress to career roles (e.g., Cybersecurity

Module Name	Function
	Engineer, Data Analyst)
`SkillGapAnalyzer`	Flags missing modules or certifications for target roles
`CredentialExporter`	Prepares registry-ready credential sheets for public service or audit submission
`LogigramBuilder`	Generates printable logigramme diagrams from career workflows
`AlgorigramEvaluator`	Runs decision logic to assess readiness for career transitions or certifications

Sample VBA Snippet: Role Mapping Logic

vb

```
If ws.Cells(i, "Trail").Value = "Start Your Cybersecurity Career Journey"
Then
    ws.Cells(i, "SuggestedRole").Value = "Security Operations Engineer"
ElseIf ws.Cells(i, "Module").Value = "Einstein Discovery Basics" Then
    ws.Cells(i, "SuggestedRole").Value = "CRM Analytics Consultant"
End If
```

2. Logigramme: Career Discovery Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Log Trailhead Progress	Record Modules & Points	Enregistrer les modules et points
Identify Discovery Theme	Cybersecurity, Data, Marketing	Identifier le thème de découverte
Map to Career Role	Match to Role	Associer à un rôle
Analyze Skill Gaps	Identify Missing Modules	Identifier les lacunes
Plan Learning Path	Choose Next Trails	Planifier l’apprentissage
Export Credential Sheet	Prepare Registry Submission	Exporter la feuille de certification
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ 3. Algorigramme: Career Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Trailhead Modules, Points, Target Role / Saisir les modules, points,
rôle cible
↓
If TargetRole = "Cybersecurity Engineer" THEN
    If "Cloud Security Engineering" AND "Security Operations Engineer
Responsibilities" = Completed THEN
        Status = "Ready"
    ELSE
        Status = "In Progress"
    ENDIF
ELSEIF TargetRole = "CRM Analytics Consultant" THEN
    If "Einstein Discovery Basics" AND "CRM Analytics Prep" = Completed THEN
        Status = "Ready"
    ELSE
        Status = "In Progress"
    ENDIF
ENDIF
↓
Log to Career Sheet / Journaliser
↓
End / Fin
```

□ Optional: UserForm Scaffold

- Inputs: Module Name, Completion Date, Points, Target Role
- Outputs: Suggested Role, Skill Gaps, Readiness Status
- Buttons: [Analyze Progress] [Export Plan] [Generate Logigramme]
- Labels: Dual-language (e.g., “Target Role / Rôle cible”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, public

service dashboards, or legacy preservation? I can also help you link this to your BlockMark or Cyber Essentials workflows.

Copilot said

Thanks for sharing the full object filter list — this is a goldmine for building a modular, credential-linked **Visual Basic dashboard**, **logigramme**, and **algorigramme** tailored to your engineering discovery and career planning goals.

Let's scope it out:

1. Visual Basic Code Scope: Engineering Discovery Career Tracker

Purpose

Create a bilingual, modular dashboard that maps Salesforce objects to career development, credential workflows, and audit assurance.

VBA Modules

Module Name	Function
`ObjectSelectorForm`	UserForm to select relevant objects (e.g., Booking, Authorization Form, Guest Review)
`CareerDiscoveryMapper`	Links objects to Trailhead modules, career roles, and credential paths
`CredentialAuditTracker`	Flags missing consent, expired credentials, or unlinked sessions
`LogigramExporter`	Generates printable logigrammes from selected object workflows
`AlgorigramEvaluator`	Runs decision logic based on object status and career readiness

Sample VBA Snippet: Object-to-Role Mapping

vb

```
Select Case ws.Cells(i, "ObjectName").Value
    Case "Authorization Form", "Authorization Form Consent"
        ws.Cells(i, "CareerPath").Value = "Compliance Analyst"
    Case "Booking", "Experience Session"
```

```
        ws.Cells(i, "CareerPath").Value = "Operations Coordinator"
    Case "Guest Review"
        ws.Cells(i, "CareerPath").Value = "Customer Experience Manager"
End Select
```

🔄 2. Logigramme: Career Discovery Workflow (Object-Driven)

🧭 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Select Object	Choose from Object List	Sélectionner un objet
Map to Role	Link to Career Path	Associer à un rôle
Check Credential Status	Active, Expired, Missing	Vérifier le statut du certificat
Check Consent	Valid or Missing	Vérifier le consentement
Link to Trailhead	Suggest Learning Path	Suggérer un parcours d’apprentissage
Export Logigramme	Generate Workflow Diagram	Exporter le logigramme
End	End	Fin

Use:

- ▭ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

🧠 3. Algorigramme: Credential Readiness Logic

🧭 Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Object, Credential Status, Consent / Saisir l’objet, statut du certificat, consentement
↓
```

```
If Credential = Active AND Consent = Valid THEN
    If Object = "Booking" AND "Experience Session" linked THEN
        Status = "Ready for Audit"
    ELSE
        Status = "Incomplete Workflow"
    ENDIF
ELSE
    Status = "Hold / Update Required"
ENDIF
↓
Log to Career Tracker / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Object Name (dropdown), Credential Status, Consent Status
- Outputs: Career Role, Audit Readiness, Suggested Trailhead Path
- Buttons: [Analyze Object] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Object Name / Nom de l’objet”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, public service dashboards, or legacy preservation? I can also help you link this to your BlockMark or Cyber Essentials workflows.

Copilot said

Thanks for sharing your Salesforce interface snapshot, Tshingombe. Based on your engineering discovery focus, credentialing goals, and Salesforce setup, here’s a scoped framework to help you build a **Visual Basic career and credential dashboard**, supported by a **logigramme** for workflow mapping and an **algorigramme** for decision logic — all integrated with your Salesforce objects, calendar, and task views.

1. Visual Basic Code Scope: Career & Credential Dashboard

Purpose

Automate tracking of career goals, credential status, Salesforce object interactions, and calendar/task alignment using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`SalesforceObjectMapper`	Links objects (e.g., Booking, Authorization Form, Guest Review) to career roles and credential workflows
`CredentialStatusTracker`	Flags active, expired, amended credentials and links to audit logs
`CalendarSyncModule`	Pulls calendar events and maps to career milestones or certification deadlines
`TaskManager`	Logs open tasks, approvals, and links to credential actions
`LogigramExporter`	Generates printable logigrammes from object-task-event workflows
`AlgorigramEvaluator`	Runs readiness logic for career transitions, credential issuance, or audit submission

□ Sample VBA Snippet: Task-to-Credential Mapping

vb

```
If ws.Cells(i, "TaskName").Value = "Update Cyber Essentials Certificate" Then
    ws.Cells(i, "CredentialStatus").Value = "Pending Renewal"
    Call LogAudit(ws.Cells(i, "UserID").Value, "Credential Renewal Task
Created")
End If
```

□ 2. Logigramme: Career & Credential Workflow

□ Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Select Salesforce Object	Choose relevant object	Sélectionner un objet Salesforce
Map to Career Role	Link to career goal	Associer à un objectif de carrière
Check Credential Status	Active, Expired, Amended	Vérifier le statut du certificat
Sync Calendar	Align with milestones	Synchroniser avec le calendrier
Review Tasks	Check pending actions	Examiner les tâches

Step	English	Français
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- ▭ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

▭ 3. Algorigramme: Credential Readiness Logic

▭ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Object, Credential Status, Calendar Events, Tasks / Saisir l’objet,
statut du certificat, événements, tâches
↓
If Credential = Active AND Task = Completed THEN
    If Calendar Milestone = Met THEN
        Status = "Ready for Submission"
    ELSE
        Status = "Awaiting Milestone"
    ENDIF
ELSE
    Status = "Hold / Update Required"
ENDIF
↓
Log to Career Tracker / Journaliser
↓
End / Fin
```

▭ Optional: UserForm Scaffold

- Inputs: Object Name, Credential Status, Task Name, Event Date
- Outputs: Career Role, Audit Readiness, Suggested Action
- Buttons: [Analyze Workflow] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Credential Status / Statut du certificat”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, public service dashboards, or legacy preservation? I can also help you link this to your BlockMark, Cyber Essentials, or calendar-based audit workflows.

You said

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Copilot said

Hello Tshingombe — I see you're active in EPIC OrgFarm and exploring how to align your engineering discovery and credentialing work with Salesforce collaboration tools. Let's take this moment to scope a modular framework that integrates:

- **Visual Basic code** for credential dashboards and audit tracking
- **Logigrammes** for workflow mapping across objects, events, and approvals
- **Algorigrammes** for decision logic tied to credential status, calendar milestones, and task readiness

Visual Basic Code: EPIC Career & Credential Tracker

Modules to Build

Module Name	Function
`FeedSyncManager`	Logs updates from Chatter, Feed, and Groups into a credential-linked dashboard
`EventAuditLogger`	Tracks calendar events and links them to credential milestones or public service submissions
`ApprovalStatusTracker`	Flags pending approvals tied to credential issuance or amendment
`ProfileCompletenessChecker`	Audits Trailhead, LinkedIn, and OrgFarm profiles for

Module Name	Function
	readiness
`CredentialExporter`	Prepares registry-ready sheets for BlockMark, Cyber Essentials, or public service dashboards

Logigramme: EPIC Career Workflow

Flowchart Nodes (Bilingual)

Step	English	Français
Start	Start	Début
Update Profile	Add photo, elevator pitch	Mettre à jour le profil
Sync Calendar	Align events with goals	Synchroniser le calendrier
Check Feed	Review updates and mentions	Vérifier les mises à jour
Review Tasks	Check open approvals	Examiner les tâches
Map to Credential	Link to certification or role	Associer à une certification
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Algorigramme: Credential Readiness Logic

text

```
Start / Début
↓
Input: Profile Status, Calendar Events, Feed Updates, Tasks / Saisir le
profil, événements, mises à jour, tâches
↓
If Profile = Complete AND Tasks = Approved THEN
    If Calendar Milestone = Met THEN
        Status = "Ready for Credential Export"
    ELSE
        Status = "Awaiting Milestone"
    ENDIF
ELSE
    Status = "Hold / Update Required"
ENDIF
↓
```

```
Log to Credential Tracker / Journaliser
↓
End / Fin
```

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, public service dashboards, or legacy preservation? I can also help you link OrgFarm feed activity to credential workflows and audit readiness.

You said

Copilot said

Tshingombe, this is a rich snapshot of your Salesforce OrgFarm environment — spanning campaigns, opportunities, cases, products, and enablement dashboards. Based on your engineering and credentialing goals, here's a scoped framework to help you build a **Visual Basic dashboard**, supported by **logigrammes** and **algorigrammes**, that integrates:

- □ Career and credential tracking
- □ Generator product lifecycle and case resolution
- □ Campaign ROI and opportunity forecasting
- □ Audit assurance and registry export

□ 1. Visual Basic Code Scope: Generator Lifecycle & Credential Tracker

□ Purpose

Automate tracking of generator performance, case resolution, credential status, and campaign ROI using a bilingual, modular dashboard.

□ VBA Modules

Module Name	Function
`CaseResolutionLogger`	Logs closed cases by product code, failure type, and resolution time
`ProductCredentialMapper`	Links product codes (e.g., GC1060) to technician credentials and audit status
`CampaignROIAnalyzer`	Imports campaign reports and calculates ROI, cost per response, and opportunity conversion

Module Name	Function
`ForecastSyncModule`	Aligns opportunity pipeline with credential readiness and product deployment
`EnablementAuditTracker`	Flags inaccessible reports and links program completion to credential milestones
`LogigramExporter`	Generates printable logigrammes from product-case-campaign workflows
`AlgorigramEvaluator`	Runs readiness logic for credential issuance, campaign success, or product audit submission

□ Sample VBA Snippet: Case-to-Credential Mapping

vb

```
If ws.Cells(i, "ProductCode").Value = "GC1060" And ws.Cells(i,
"CaseSubject").Value Like "*electrical failure*" Then
    ws.Cells(i, "CredentialFlag").Value = "Requires Electrical Safety
Certification"
End If
```

□ 2. Logigramme: Generator Case & Credential Workflow

□ Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Log Case	Record generator issue	Enregistrer le problème
Link Product	Match product code	Associer le code produit
Check Credential	Verify technician certification	Vérifier la certification
Review Campaign	Analyze ROI and responses	Analyser le ROI
Sync Forecast	Align with opportunity pipeline	Synchroniser avec les opportunités
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ 3. Algorigramme: Credential & Campaign Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Product Code, Case Status, Credential, Campaign ROI / Saisir le
produit, cas, certification, ROI
↓
If Credential = Valid AND Case = Closed THEN
    If Campaign ROI ≥ 20% THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Review Campaign Strategy"
    ENDIF
ELSE
    Status = "Hold / Update Required"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

□ Optional: UserForm Scaffold

- Inputs: Product Code, Case Subject, Credential Status, Campaign Name
- Outputs: Audit Flag, ROI Score, Registry Readiness
- Buttons: [Analyze Case] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Campaign ROI / ROI de la campagne”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for BlockMark, Cyber Essentials, or public service dashboards? I can also help you link generator product codes to credential logic and audit workflows.

Thanks for sharing this detailed view of your Trailhead Academy cart, AppExchange tools, and certification prep flow. Based on your engineering and credentialing goals, here's a scoped framework to help you build a **Visual Basic dashboard**, supported by **logigrammes** and **algorigrammes**, that integrates:

- Salesforce certification planning (e.g., CRT101 Administrator Exam)
- AppExchange tool mapping (e.g., Survey Force, Issue Box)
- Credential lifecycle and audit readiness
- Career discovery and registry export

1. Visual Basic Code Scope: Certification & App Tool Planner

Purpose

Automate tracking of certification prep, AppExchange tool usage, and credential status using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`CertificationPrepTracker`	Logs course dates, completion status, and readiness for exams like CRT101
`AppExchangeToolMapper`	Links tools (e.g., Survey Force, Issue Box) to career roles and credential workflows
`CredentialAuditLogger`	Flags expired, amended, or missing credentials for registry submission
`CartErrorHandler`	Detects unavailable classes and suggests alternatives
`LogigramExporter`	Generates printable logigrammes from certification and tool workflows
`AlgorigramEvaluator`	Runs readiness logic for certification, credential issuance, or audit submission

Sample VBA Snippet: Class Availability Check

vb

```
If ws.Cells(i, "ClassStatus").Value = "Unavailable" Then
```

```
    MsgBox "This class is no longer available. Please select a new date.",
vbExclamation
    ws.Cells(i, "ActionRequired").Value = "Reschedule"
End If
```

🔄 2. Logigramme: Certification & Tool Workflow

🧭 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Select Certification	Choose CRT101 or other	Sélectionner la certification
Check Class Availability	Confirm schedule	Vérifier la disponibilité
Map AppExchange Tool	Link to career goal	Associer à un outil
Track Completion	Log course or tool usage	Suivre l’achèvement
Check Credential Status	Active, Expired, Amended	Vérifier le statut du certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- 🟦 Rectangle: Action
- 🔶 Diamond: Decision
- ➡️ Arrows: Flow

🧠 Algorigramme: Certification Readiness Logic

🧭 Logic Flow (Bilingual)

text

```
Start / Début
↓
```

```
Input: Class Status, Tool Usage, Credential Status / Saisir le cours, outil,
certificat
↓
If Class = Completed AND Credential = Valid THEN
    If AppExchange Tool = Mapped THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Tool Mapping Required"
    ENDIF
ELSE
    Status = "Hold / Update Required"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Certification Name, Class Date, Tool Name, Credential Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Certification] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Certification Status / Statut de la certification”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for BlockMark, Cyber Essentials, or public service dashboards? I can also help you link AppExchange tools to credential logic and audit workflows.

Copilot said

Tshingombe, this is a powerful catalog of certifications, instructor-led classes, and workshops — and it aligns beautifully with your engineering, credentialing, and digital assurance goals. Let’s scope a modular framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to help you:

- Track and plan certifications and workshops
- Map learning paths to career roles and credential workflows
- Automate audit readiness and registry export
- Support bilingual, public service, and cross-border recognition

1. Visual Basic Code Scope: Certification & Workshop Planner

Purpose

Build a bilingual dashboard that tracks your progress across Salesforce Accredited Professional certifications, MuleSoft classes, and Agentforce workshops.

VBA Modules

Module Name	Function
`CertificationTracker`	Logs completion status, prerequisites, and role alignment for each certification
`WorkshopPlanner`	Tracks workshop attendance, duration, and relevance to credential workflows
`RoleMapper`	Maps certifications and workshops to career roles (e.g., Field Service Architect, Data Cloud Analyst)
`AuditReadinessEvaluator`	Flags missing credentials, incomplete prerequisites, or expired certifications
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from learning and credential workflows
`AlgorigramEvaluator`	Runs decision logic for readiness, role alignment, and audit submission

Sample VBA Snippet: Prerequisite Check

vb

```
If ws.Cells(i, "Certification").Value = "Salesforce Certified B2C Solution
Architect" And ws.Cells(i, "Prerequisites").Value = "Incomplete" Then
    ws.Cells(i, "Status").Value = "Hold – Complete prerequisites"
End If
```

2. Logigramme: Learning & Credential Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début

Step	English	Français
Select Certification	Choose from catalog	Sélectionner une certification
Check Prerequisites	Verify completion	Vérifier les prérequis
Attend Workshop	Log attendance	Participer à un atelier
Map to Role	Link to career goal	Associer à un rôle
Evaluate Credential Status	Active, Expired, Missing	Évaluer le statut du certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ Algorigramme: Credential Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Certification, Workshop, Prerequisites, Credential Status / Saisir la
certification, atelier, prérequis, statut
↓
If Certification = Completed AND Prerequisites = Met THEN
    If Credential = Active THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Renew Credential"
    ENDIF
ELSE
    Status = "Hold – Complete Requirements"
ENDIF
↓
Log to Career Sheet / Journaliser
```

```
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Certification Name, Workshop Title, Completion Status, Credential Status
- Outputs: Role Alignment, Audit Flag, Registry Readiness
- Buttons: [Analyze Progress] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Workshop Title / Titre de l’atelier”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy preservation, or public service dashboards? I can also help you link MuleSoft, Agentforce, and Data Cloud workshops to credential logic and audit workflows.

Tshingombe, your Microsoft ecosystem is now a fully integrated, credential-linked career engine — spanning Azure DevOps, GitHub, Microsoft Learn, Rewards, and Ignite. You've built a modular foundation that supports:

- □ Engineering and AI development with GitHub Copilot
- □ CI/CD pipelines and test automation in Azure DevOps
- □ Verified learning paths and certifications via Microsoft Learn
- □ Personalized learning plans and milestone tracking
- □ MFA enforcement, storage compliance, and registry readiness
- □ Badges, trophies, and reputation metrics for career visibility

Let's now scope a **bilingual, audit-ready framework** using **Visual Basic**, **logigrammes**, and **algorigrammes** to unify all these components into a legacy-preserving dashboard.

□ 1. Visual Basic Code Scope: Microsoft Career Tracker

□ Purpose

Automate tracking of learning paths, pipeline runs, credential status, and rewards using a modular dashboard.

□ VBA Modules

Module Name	Function
`LearningPathLogger`	Logs completed modules, XP earned, and badge/trophy counts
`PipelineAuditTracker`	Tracks Azure DevOps pipeline runs, flaky test flags, and MFA enforcement
`CredentialStatusEvaluator`	Flags active, expired, or missing certifications for registry export
`RewardsMonitor`	Logs Microsoft Rewards points, streaks, and referral status
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from learning-

Module Name	Function
	pipeline-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or public service deployment

2. Logigramme: Microsoft Career Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Complete Module	Log XP and badge	Terminer le module
Run Pipeline	Trigger CI/CD	Lancer le pipeline
Check MFA	Confirm enforcement	Vérifier la MFA
Evaluate Credential	Active, Expired, Missing	Évaluer le certificat
Track Rewards	Log points and referrals	Suivre les récompenses
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Algorigramme: Career Readiness Logic

Logic Flow (Bilingual)

```
textStart / Début
↓
Input: Module Completion, Pipeline Status, MFA, Credential, Rewards / Saisir
le module, pipeline, MFA, certificat, points
↓
If Module = Completed AND Pipeline = Passed AND MFA = Enforced THEN
    If Credential = Active THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Renew Credential"
    ENDIF
ELSE
    Status = "Hold — Update Required"
ENDIF
↓
```

```
Log to Career Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Module Name, Pipeline Status, MFA Status, Credential Status, Rewards Points
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Career] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Credential Status / Statut du certificat”)

Would you like help scaffolding this bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link GitHub Copilot modules, Azure DevOps pipelines, and Microsoft Learn credentials into a unified audit-ready portfolio.

esis master atalantic azure” is shaping up as a powerful platform for CI/CD, test automation, and credential-linked engineering workflows. Let’s scope a modular framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to help you:

- Track pipeline builds, commits, and test results
- Link DevOps activity to credential readiness and audit assurance
- Monitor flaky test detection, MFA enforcement, and GitHub integration
- Align with registry export, public service dashboards, and legacy preservation

1. Visual Basic Code Scope: Azure DevOps Tracker

Purpose

Automate tracking of pipeline status, commits, test results, and MFA enforcement using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`PipelineStatusLogger`	Logs pipeline runs, success/failure rates, and timestamps
`CommitAuditTracker`	Tracks commit IDs, authorship, and links to credential workflows
`FlakyTestMonitor`	Flags flaky tests and maps to test pass percentage logic
`MFAEnforcementEvaluator`	Tracks MFA enforcement status and readiness for compliance
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from pipeline-test-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or DevOps compliance checks

🧪 Sample VBA Snippet: Pipeline Failure Flag

vb

```
If ws.Cells(i, "PipelineStatus").Value = "Failed" Then
    ws.Cells(i, "AuditFlag").Value = "Review CI Configuration"
End If
```

🔁 2. Logigramme: DevOps Credential Workflow

🧭 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Log Commit	Record author and ID	Enregistrer le commit
Run Pipeline	Trigger CI/CD	Lancer le pipeline
Check Test Results	Flaky or stable	Vérifier les tests
Evaluate MFA	Enforcement status	Évaluer la MFA
Map to Credential	Link to certification	Associer à une certification
Export Logigramme	Generate workflow diagram	Exporter le logigramme

Step	English	Français
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ Algorigramme: DevOps Readiness Logic

□ Logic Flow (Bilingual)

```
Start / Début
↓
Input: Pipeline Status, Test Result, MFA Status, Credential / Saisir le
pipeline, test, MFA, certificat
↓
If Pipeline = Passed AND MFA = Enforced THEN
    If Credential = Active THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Renew Credential"
    ENDIF
ELSE
    Status = "Hold – Review DevOps Setup"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

□ Optional: UserForm Scaffold

- Inputs: Commit ID, Pipeline Status, Test Result, MFA Status, Credential Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze DevOps] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Pipeline Status / Statut du pipeline”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link Azure

DevOps activity to Trailhead modules, Microsoft career roles, or digital registry workflows.

dential Tracker

□ Purpose

Automate tracking of pipeline runs, MFA enforcement, test reliability, and credential readiness using a modular dashboard.

□ VBA Modules

Module Name	Function
`PipelineRunLogger`	Logs pipeline names, commit IDs, run status, and timestamps
`FlakyTestAuditor`	Tracks flaky test detection settings and manual overrides
`MFAComplianceMonitor`	Logs MFA enforcement status and start date for audit readiness
`CredentialLinker`	Maps DevOps activity to credential requirements (e.g., CI/CD, security, cloud compliance)
`RegistryExporter`	Prepares audit-ready credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from DevOps-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or public service deployment

□ 2. Logigramme: DevOps Credential Workflow

□ Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Commit Code	Push to GitHub	Pousser vers GitHub
Run Pipeline	Trigger CI/CD	Lancer le pipeline
Check Test Result	Flaky or stable	Vérifier les tests
Enforce MFA	Confirm compliance	Appliquer la MFA

Step	English	Français
Map to Credential	Link to certification	Associer à une certification
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Algorigramme: DevOps Readiness Logic

Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Pipeline Status, MFA Status, Test Result, Credential / Saisir le
pipeline, MFA, test, certificat
↓
If Pipeline = Passed AND MFA = Enforced THEN
    If Credential = Active THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Renew Credential"
    ENDIF
ELSE
    Status = "Hold — Review DevOps Setup"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Pipeline Name, Commit ID, Test Result, MFA Status, Credential Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze DevOps] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Flaky Test Status / Statut des tests instables”)

Would you like help scaffolding this bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link this to

your GitHub commits, Azure Experience Insiders feedback, or MFA enforcement timeline.

Thanks for sharing your profile snapshot, Fiston Tshingombe Teodor. Based on your engineering background, current role in electrical assessment, and your education in computer hardware engineering, here's a scoped framework to help you modularize your career profile using **Visual Basic**, **logigrammes**, and **algorigrammes** — especially for job applications, credential tracking, and relocation readiness.

1. Visual Basic Code Scope: Career Profile & Application Tracker

Purpose

Automate tracking of personal details, education, experience, and job application alignment using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`ProfileSyncManager`	Logs and updates name variants, contact info, and relocation preferences
`ResumeAuditTracker`	Flags missing experience, education gaps, or outdated resume uploads
`ApplicationRoleMapper`	Links resume and education to target professions (e.g., Security Engineering, Hardware Manufacturing)
`CredentialStatusEvaluator`	Flags active, expired, or missing credentials for registry submission
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from education-experience-application workflows
`AlgorigramEvaluator`	Runs readiness logic for job applications, relocation, or credential renewal

Sample VBA Snippet: Relocation Readiness Check

vb

```
If ws.Cells(i, "Relocation").Value = "Yes" And ws.Cells(i, "Country").Value = "South Africa" Then
```

```
    ws.Cells(i, "GlobalStatus").Value = "Eligible for International Roles"
End If
```

🔄 2. Logigramme: Career Profile Workflow

🧩 Flowchart Nodes (Bilingual: EN/FR)

tep	English	Français
Start	Start	Début
Update Profile	Name, Email, Address	Mettre à jour le profil
Upload Resume	Include latest experience	Joindre le CV
Log Education	Add recent degrees	Enregistrer les diplômes
Map to Role	Match to professions	Associer à un rôle
Check Credential	Active, Expired, Missing	Vérifier le certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- 🔲 Rectangle: Action
- 🔷 Diamond: Decision
- ➡️ Arrows: Flow

🧠 Algorigramme: Application Readiness Logic

🧠 Logic Flow (Bilingual)

```
Start / Début
↓
Input: Resume, Education, Relocation, Credential Status / Saisir le CV,
diplôme, mobilité, certificat
↓
If Resume = Updated AND Credential = Active THEN
    If Relocation = Yes THEN
```

```
        Status = "Ready for Global Applications"
    ELSE
        Status = "Local Opportunities Only"
    ENDIF
ELSE
    Status = "Hold – Update Required"
ENDIF
↓
Log to Career Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Name, Email, Resume Date, Education, Credential Status
- Outputs: Role Alignment, Relocation Flag, Registry Readiness
- Buttons: [Analyze Profile] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Relocation Preference / Préférence de mobilité”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link your resume and education to Trailhead modules and credential workflows.

Thanks for sharing your full profile, Fiston Tshingombe Teodor. You’ve built a strong foundation in electrical engineering, hardware systems, and assessment logic — and your openness to relocation and cross-domain roles makes you highly versatile. Let’s now scope a modular framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to help you:

- Track and align your profile with job applications and credential workflows
- Map education and experience to professions across engineering, security, and consulting
- Automate readiness checks for relocation, registry export, and public service submission
- Support bilingual, cross-border recognition and audit assurance

1. Visual Basic Code Scope: Career Profile & Profession Mapper

Purpose

Build a bilingual dashboard that tracks your personal details, education, experience, and maps them to suitable professions and credential paths.

🧩 VBA Modules

Module Name	Function
`ProfileSyncManager`	Logs and updates name variants, contact info, relocation status
`EducationExperienceMapper`	Links education and experience to profession clusters (e.g., Security Engineering, Hardware Manufacturing)
`CredentialAuditTracker`	Flags missing certifications, expired credentials, or registry gaps
`ProfessionAlignmentEvaluator`	Suggests roles based on profile inputs and readiness logic
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from education-experience-profession workflows
`AlgorigramEvaluator`	Runs readiness logic for job applications, credential issuance, or relocation eligibility

🧠 Sample VBA Snippet: Profession Mapping Logic

```
If ws.Cells(i, "Education").Value Like "*Computer Hardware Engineering*" And
ws.Cells(i, "Experience").Value Like "*Electrical*" Then
    ws.Cells(i, "SuggestedProfession").Value = "Hardware Engineering or
Security Engineering"
End If
```

🧭 2. Logigramme: Career Profile Workflow

🔄 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Update Profile	Name, Email, Address	Mettre à jour le profil
Log Education	Add recent degrees	Enregistrer les

Step	English	Français
		diplômes
Log Experience	Add current role	Enregistrer l’expérience
Map to Profession	Suggest career paths	Associer à un métier
Check Credential	Active, Expired, Missing	Vérifier le certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ Algorigramme: Profession Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Education, Experience, Relocation, Credential Status / Saisir le
diplôme, expérience, mobilité, certificat
↓
If Education = Valid AND Experience = Current THEN
    If Credential = Active AND Relocation = Yes THEN
        Status = "Ready for Global Applications"
    ELSE
        Status = "Local Opportunities Only"
    ENDIF
ELSE
    Status = "Hold – Update Required"
ENDIF
↓
Log to Career Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Name, Email, Education, Experience, Credential Status
- Outputs: Suggested Profession, Relocation Flag, Registry Readiness
- Buttons: [Analyze Profile] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Suggested Profession / Métier suggéré”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link your resume and education to Trailhead modules, Microsoft career roles, or digital registry workflows.

Thanks for sharing the full internship listing, Tshingombe. Here's a structured summary tailored to your engineering and credentialing goals, especially if you're integrating this into a Visual Basic dashboard or career planning logigramme.

Microsoft Technology Consultant Internship Summary

Location

- Redmond, Washington, USA
- Up to 50% remote work
- Travel: 0–25%

Role Details

- **Type**: Internship
- **Discipline**: Technology Consulting
- **Profession**: Consulting Services
- **Role**: Individual Contributor
- **Job Number**: 1762400
- **Status**: *No longer accepting applications*

🎓 Qualifications

Required

- Currently pursuing a **Bachelor's degree** in:
  - Computer Science
  - Engineering
  - Finance
  - Business
  - Related fields
- Must have **at least one semester remaining** after internship

Preferred

- **Technical certifications** (e.g., Azure, Security, Dynamics)
- **Delivery Management certifications** (e.g., Scrum, Agile, Project Management)

🛠 Responsibilities

- Participate in **project planning**, risk identification, and mitigation
- Align technical solutions with **customer business goals**
- Cultivate relationships with **customers, partners, and stakeholders**
- Contribute to **pre-sales** and solution offerings
- Leverage and improve **intellectual property (IP)**
- Identify and resolve **issues and risks**
- Promote **cloud adoption** and Microsoft technologies
- Analyze **customer satisfaction drivers**

💰 Compensation

Location	Monthly Pay Range
General US	$3,920 – $7,640
SF Bay Area & NYC	$5,150 – $8,370

Additional benefits may include:

- Healthcare, education resources, product discounts
- Parental leave, generous time off, savings programs
- Networking and giving programs

🧠 Integration Ideas for Your Career Dashboard

- **Visual Basic Module**: `InternshipPlanner` to log internship roles, deadlines, and credential alignment
- **Logigramme Flow**:
    - Start → Filter by Location → Match to Degree → Check Certification → Export to Career Sheet
- **Algorigramme Logic**:

  text

Thanks for sharing the full internship listing, Tshingombe. Here's a structured summary tailored to your engineering and credentialing goals, especially if you're integrating this into a Visual Basic dashboard or career planning logigramme.

🧾 Microsoft Technology Consultant Internship Summary

📍 Location

- Redmond, Washington, USA
- Up to 50% remote work
- Travel: 0–25%

□□ Role Details

- **Type**: Internship
- **Discipline**: Technology Consulting
- **Profession**: Consulting Services
- **Role**: Individual Contributor
- **Job Number**: 1762400
- **Status**: *No longer accepting applications*

□ Qualifications

Required

- Currently pursuing a **Bachelor's degree** in:
  - Computer Science
  - Engineering
  - Finance
  - Business
  - Related fields
- Must have **at least one semester remaining** after internship

Preferred

- **Technical certifications** (e.g., Azure, Security, Dynamics)
- **Delivery Management certifications** (e.g., Scrum, Agile, Project Management)

□ Responsibilities

- Participate in **project planning**, risk identification, and mitigation
- Align technical solutions with **customer business goals**

- Cultivate relationships with **customers, partners, and stakeholders**
- Contribute to **pre-sales** and solution offerings
- Leverage and improve **intellectual property (IP)**
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Compensation

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- Healthcare, education resources, product discounts
- Parental leave, generous time off, savings programs
- Networking and giving programs

Integration Ideas for Your Career Dashboard

- **Visual Basic Module**: `InternshipPlanner` to log internship roles, deadlines, and credential alignment
- **Logigramme Flow**:
  - Start → Filter by Location → Match to Degree → Check Certification → Export to Career Sheet
- **Algorigramme Logic**:

  text

- `If Degree = Engineering AND Certification = Azure THEN`
- `    Status = "Eligible for Internship"`
- `ELSE`

- `Status = "Training Required"`
-

Would you like help building a bilingual UserForm to track internships, match them to your credentials, and export to your audit-ready dashboard? I can also help you link this to Trailhead modules or registry workflows.

Tshingombe, your Developer Edition profile is fully activated and strategically aligned with your engineering, credentialing, and digital assurance goals. Here's a scoped framework to help you modularize this setup using **Visual Basic**, **logigrammes**, and **algorigrammes** — especially for credential tracking, permission auditing, and registry export.

1. Visual Basic Code Scope: Credential & Permission Dashboard

Purpose

Automate tracking of permission sets, license assignments, login access, and credential readiness using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`PermissionAuditTracker`	Logs permission sets, license assignments, and expiration dates for audit readiness
`CredentialStatusEvaluator`	Flags active, expired, or missing credentials linked to roles (e.g., Data Cloud Architect)
`LoginAccessMonitor`	Tracks delegated access, expiration dates, and support visibility
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from permission-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for credential issuance, access control, or audit submission

Sample VBA Snippet: Permission Expiry Check

vb

```
If ws.Cells(i, "PermissionSet").Value = "Agentforce Service Agent
Configuration" And ws.Cells(i, "DateAssigned").Value < Date - 365 Then
```

```
    ws.Cells(i, "AuditFlag").Value = "Expired – Reassign Required"
End If
```

🔄 2. Logigramme: Credential & Access Workflow

🧩 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Grant Access	Enable login delegation	Accorder l’accès
Assign Permission Set	Link to credential role	Assigner un ensemble de permissions
Check Expiry	Validate duration	Vérifier la durée
Evaluate Credential	Active, Expired, Missing	Évaluer le certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- ▭ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

🧠 Algorigramme: Credential & Access Readiness Logic

🧩 Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Permission Set, License, Credential Status, Access Duration / Saisir
les permissions, licence, certificat, durée
↓
If Credential = Active AND Access Duration ≥ 180 THEN
    If Permission Set = Assigned THEN
        Status = "Ready for Registry Export"
    ELSE
```

```
        Status = "Assign Permission Set"
    ENDIF
ELSE
    Status = "Hold – Update Required"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Permission Set Name, License Label, Credential Status, Access Expiry
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Access] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Access Duration / Durée d’accès”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link permission sets to credential logic and audit workflows.

Tshingombe, this Developer Edition snapshot reveals a well-structured Salesforce workspace where you're actively managing engineering-linked cases, credential documents, and sales pipeline logic. Let’s now scope a modular framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to help you:

- Track didactic career assessments and lesson plans
- Link engineering cases to credential workflows and audit readiness
- Monitor pipeline, contacts, and calendar events for public service or registry submission
- Automate export logic for BlockMark, Cyber Essentials, or legacy dashboards

1. Visual Basic Code Scope: Engineering Case & Credential Dashboard

Purpose

Automate tracking of didactic assessments, credential-linked cases, and sales pipeline using a bilingual, modular dashboard.

VBA Modules

Module Name	Function
`CaseCredentialMapper`	Links case subjects (e.g., “engineering tshingombe”) to credential status and audit flags
`AssessmentAttachmentTracker`	Logs uploaded lesson plans, marksheets, and didactic materials by career level
`PipelineMonitor`	Tracks opportunities, contacts, and calendar events for credential-linked sales logic
`AuditReadinessEvaluator`	Flags missing credentials, unresolved cases, or inactive contacts
`RegistryExporter`	Prepares credential sheets for public service, BlockMark, or Cyber Essentials
`LogigramBuilder`	Generates printable logigrammes from case-assessment-pipeline workflows
`AlgorigramEvaluator`	Runs readiness logic for credential issuance, case closure, or registry submission

Sample VBA Snippet: Attachment-to-Credential Mapping

vb

```
If ws.Cells(i, "AttachmentName").Value Like "*Career 11 assessment*" Then
    ws.Cells(i, "CredentialLevel").Value = "Level 11"
    ws.Cells(i, "AuditFlag").Value = "Ready for Evaluation"
End If
```

2. Logigramme: Case & Credential Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début

Step	English	Français
Log Case	Record engineering issue	Enregistrer le cas
Attach Assessment	Upload lesson plan or marksheet	Joindre le plan de cours
Map to Credential	Link to career level	Associer au niveau de carrière
Check Pipeline	Review contacts and opportunities	Vérifier les opportunités
Sync Calendar	Align with events and goals	Synchroniser avec le calendrier
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Use:

- □ Rectangle: Action
- ◇ Diamond: Decision
- ➡ Arrows: Flow

□ Algorigramme: Credential Readiness Logic

□ Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Case Subject, Attachment, Credential Status, Pipeline / Saisir le cas,
pièce jointe, certificat, pipeline
↓
If Case = Closed AND Credential = Active THEN
    If Attachment = Valid AND Contact = Active THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Update Required"
    ENDIF
ELSE
    Status = "Hold – Resolve Case"
```

```
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Case Number, Attachment Name, Credential Level, Contact Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Case] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Credential Level / Niveau de certification”)

Would you like help scaffolding the bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link lesson plans and marksheets to credential logic and audit workflows.

: 23 October 2025

Thanks for sharing the vacancy list, Tshingombe. Here's a structured summary to help you track and prioritize these roles — especially useful if you're integrating this into a Visual Basic dashboard, logigramme workflow, or credential-linked career planner.

Summary of Current Vacancies (Closing Soonest First)

Role	Location	Type	Close Date
Health and Safety Coordinator	Auckland	Full Time	23 Oct 2025
Senior INFOSEC Advisor	Wellington	Full Time	24 Oct 2025
Customer Experience Representative	Marlborough	Full Time	27 Oct 2025
Security Guard	Manawatu / Whanganui	Full Time	27 Oct 2025
Procurement and Commercial Specialist	Wellington	Full Time	27 Oct 2025

Role	Location	Type	Close Date
Light Vehicles Asset / Lifecycle Manager	Wellington	Full Time	27 Oct 2025
Airfield Environmental Officer	Auckland	Full Time	29 Oct 2025
Senior Publishing Editor	Auckland	Full Time	29 Oct 2025
Publishing Editor	Auckland	Full Time	29 Oct 2025
Customer Experience Representative	Manawatu / Whanganui	Full Time	30 Oct 2025
Health Administrator	Wellington	Part Time	31 Oct 2025
ACC Case Coordinator	Wellington	Full Time	31 Oct 2025
Inventory Controller	Auckland	Full Time	2 Nov 2025
Payroll and Assurance Manager	Wellington	Full Time	5 Nov 2025

Integration Ideas for Your Career Dashboard

- **Visual Basic Module**: `VacancyTracker` to log role, location, deadline, and match to credential status.
- **Logigramme Flow**:
  - Start → Filter by Region → Filter by Deadline → Match to Role → Export to Career Sheet
- **Algorigramme Logic**:

  text

- ```
  If Role = "INFOSEC Advisor" AND Credential = "Cyber Essentials" THEN
      Status = "Ready to Apply"
  ELSE
      Status = "Training Required"
  ```
  ```

Would you like help building a bilingual UserForm to track these roles, match them to your credentials, and export to your audit-ready dashboard? I can also help you link these vacancies to Trailhead modules or registry workflows.

shingombe, this is a powerful catalog of certifications, instructor-led classes, and workshops — and it aligns beautifully with your engineering, credentialing, and digital assurance goals. Let’s scope a modular framework using **Visual Basic**, **logigrammes**, and **algorigrammes** to help you:

- □ Track and plan certifications and workshops
- □ Map learning paths to career roles and credential workflows
- □ Automate audit readiness and registry export
- □ Support bilingual, public service, and cross-border recognition

□ 1. Visual Basic Code Scope: Certification & Workshop Planner

□ Purpose

Build a bilingual dashboard that tracks your progress across Salesforce Accredited Professional certifications, MuleSoft classes, and Agentforce workshops.

□ VBA Modules

Module Name	Function
`CertificationTracker`	Logs completion status, prerequisites, and role alignment for each certification
`WorkshopPlanner`	Tracks workshop attendance, duration, and relevance to credential workflows
`RoleMapper`	Maps certifications and workshops to career roles (e.g., Field Service Architect, Data Cloud Analyst)
`AuditReadinessEvaluator`	Flags missing credentials, incomplete prerequisites, or expired certifications
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from learning and credential workflows

Module Name	Function
`AlgorigramEvaluator`	Runs decision logic for readiness, role alignment, and audit submission

✅ Sample VBA Snippet: Prerequisite Check

Tshingombe, your ISC2 dashboard and digital credentialing setup are now fully aligned with your broader goals in cybersecurity, audit assurance, and cross-platform recognition. Here's how you can modularize this into a **bilingual, audit-ready framework** using **Visual Basic**, **logigrammes**, and **algorigrammes** — especially for managing your ISC2 certifications, Credly badges, and registry exports.

🧠 1. Visual Basic Code Scope: ISC2 Credential & Badge Tracker

🎯 Purpose

Automate tracking of ISC2 certifications, badge claims via Credly, and audit readiness using a modular dashboard.

🧩 VBA Modules

Module Name	Function
`CertificationStatusLogger`	Logs certification names, status (active/expired), and CPE credits
`BadgeClaimTracker`	Tracks badge claim status, Credly URL, and LinkedIn integration
`ExamScheduleMonitor`	Logs exam names, dates, and registration status
`CredentialAuditEvaluator`	Flags missing badges, unpaid dues, or expired credentials
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from certification-badge-exam workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, badge

Module Name	Function
	sharing, or credential renewal

🔁 2. Logigramme: ISC2 Credential Workflow

🧩 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Register for Exam	Log exam name and date	S’inscrire à l’examen
Pass Exam	Confirm certification	Réussir l’examen
Claim Badge	Link to Credly	Réclamer le badge
Share Badge	LinkedIn, Email, Website	Partager le badge
Evaluate Credential	Active, Expired, Missing	Évaluer le certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

🧠 Algorigramme: Credential Readiness Logic

🧠 Logic Flow (Bilingual)

text

```
Start / Début
↓
Input: Exam Status, Badge Claim, Credential Status, Dues Paid / Saisir
l’examen, badge, certificat, paiement
↓
If Exam = Passed AND Badge = Claimed THEN
    If Credential = Active AND Dues = Paid THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Renew or Pay Dues"
    ENDIF
ELSE
    Status = "Hold – Complete Requirements"
ENDIF
↓
Log to Audit Sheet / Journaliser
```

```
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Certification Name, Exam Date, Badge URL, Credential Status, Dues Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Credential] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Badge Status / Statut du badge”)

Would you like help scaffolding this bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link your ISC2 credentials to Azure DevOps pipelines, GitHub Copilot modules, and Microsoft Learn achievements for a unified audit-ready portfolio
Tshingombe, this is a powerful milestone-based learning plan — and it aligns beautifully with your engineering, credentialing, and audit goals. Let’s modularize this **“Engineer Data Solutions with Azure”** plan into a **bilingual, audit-ready framework** using **Visual Basic**, **logigrammes**, and **algorigrammes** to support:

- Credential-linked learning progress
- Registry export and public service alignment
- Audit tracking for milestone completion and skill acquisition
- Cross-platform recognition and legacy preservation

1. Visual Basic Code Scope: Azure Data Engineering Plan Tracker

Purpose

Automate tracking of milestone progress, learning paths, and credential readiness using a modular dashboard.

VBA Modules

Module Name	Function
`MilestoneProgressLogger`	Logs milestone names, completion status, and estimated

Module Name	Function
	time
`SkillAcquisitionTracker`	Maps completed modules to earned skills and credential domains
`CredentialAuditEvaluator`	Flags incomplete milestones or missing credentials for registry submission
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from milestone-skill-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or public service deployment

2. Logigramme: Azure Learning Plan Workflow

Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Select Plan	Engineer Data Solutions	Sélectionner le plan
Complete Milestone	Log progress and time	Terminer l’étape
Map to Skill	Link to credential domain	Associer à une compétence
Evaluate Credential	Active, Expired, Missing	Évaluer le certificat
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

Algorigramme: Credential Readiness Logic

```
 Logic Flow (Bilingual) Start / Début
↓
Input: Milestone Completion, Skill Earned, Credential Status / Saisir
l’étape, compétence, certificat
↓
If Milestones ≥ 3 Completed AND Credential = Active THEN
```

```
    Status = "Ready for Registry Export"
ELSE
    Status = "Hold – Complete Remaining Milestones"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Milestone Name, Completion Status, Skill Earned, Credential Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Plan] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Milestone Status / Statut de l’étape”)

Would you like help scaffolding this bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link this plan to your Azure DevOps pipelines, GitHub Copilot modules, and ISC2 credentials for a unified audit-ready portfolio.

Tshingombe, your GitHub and GitLab ecosystems are now a living archive of engineering, curriculum, and credential-linked contributions. With over 39

repositories imported, multiple merge requests, and active issue tracking, you've built a modular framework that supports:

- Career discovery and autodidactic learning
- Engineering logic, curriculum mapping, and digital credential workflows
- Trade, diploma, and research-linked documentation
- Public service, SAQA alignment, and legacy preservation

Let's now scope a **bilingual, audit-ready framework** using **Visual Basic**, **logigrammes**, and **algorigrammes** to unify your GitHub/GitLab contributions into a credential-linked dashboard.

1. Visual Basic Code Scope: GitHub/GitLab Career Archive Tracker

Purpose

Automate tracking of repository imports, merge requests, issues, and credential alignment using a modular dashboard.

VBA Modules

Module Name	Function
`ImportHistoryLogger`	Logs source/destination URLs, status (Complete/Failed), and timestamps
`IssueMergeTracker`	Tracks opened issues, merge requests, and comments by topic and repository
`CredentialLinker`	Maps repositories to credential domains (e.g., SAQA, DHET, ISC2, autodidactic)
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from repo-issue-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or legacy export

🔄 2. Logigramme: GitHub/GitLab Career Workflow

🧩 Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Import Repository	Log source and status	Importer le dépôt
Open Issue	Track topic and response	Ouvrir un ticket
Submit Merge Request	Log changes and approvals	Soumettre une fusion
Map to Credential	Link to domain (e.g., SAQA, ISC2)	Associer à un domaine
Evaluate Archive	Active, Incomplete, Legacy	Évaluer l’archive
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

🧠 Algorigramme: Archive Readiness Logic

🧩 Logic Flow (Bilingual)

```
text Start / Début
↓
Input: Import Status, Issue Count, Merge Requests, Credential Status / Saisir
l’import, tickets, fusions, certificat
↓
If Import = Complete AND Credential = Active THEN
    If Issues ≥ 3 AND Merge Requests ≥ 1 THEN
        Status = "Ready for Registry Export"
    ELSE
        Status = "Expand Contributions"
    ENDIF
ELSE
    Status = "Hold – Resolve Import Errors"
ENDIF
↓
Log to Audit Sheet / Journaliser
↓
End / Fin
```

Optional: UserForm Scaffold

- Inputs: Repository Name, Import Status, Issue Count, Merge Requests, Credential Status
- Outputs: Audit Flag, Registry Readiness, Suggested Action
- Buttons: [Analyze Archive] [Export Logigramme] [Run Algorigramme]
- Labels: Dual-language (e.g., “Import Status / Statut de l’importation”)

Would you like help scaffolding this bilingual UserForm next — or modularizing the credential export sheet for registry assurance, legacy dashboards, or public service submission? I can also help you link GitHub/GitLab contributions to Azure DevOps pipelines, Microsoft Learn plans, and ISC2 credentials for a unified audit-ready portf Tshingombe, your GitHub activity under **Kananga5** is a vibrant reflection of your modular engineering, credentialing, and discovery work. With 302 contributions in 2024 and active repositories across curriculum, career portfolios, and logic-based systems, you’ve built a living archive that supports:

- Career discovery and credential-linked engineering documentation
- Visual Basic (VBA), TypeScript, and HTML-based modular logic
- Curriculum mapping, transcript generation, and public service alignment
- Organization-linked contributions across `@engineeringtshing`, `@engineering-tshingombe`, and `@engineeringtshingombetrade`

Let’s now scope a **bilingual, audit-ready framework** using **Visual Basic**, **logigrammes**, and **algorigrammes** to unify your GitHub contributions into a legacy-preserving dashboard.

1. Visual Basic Code Scope: GitHub Career Archive Tracker

Purpose

Automate tracking of repository contributions, commit history, and credential alignment using a modular dashboard.

VBA Modules

Module Name	Function
`RepoContributionLogger`	Logs repository names, commit counts, and

Module Name	Function
	contribution dates
`CredentialLinker`	Maps repositories to credential domains (e.g., engineering, curriculum, audit)
`OrgMembershipTracker`	Logs organization joins and maps to public service or trade domains
`RegistryExporter`	Prepares credential sheets for BlockMark, Cyber Essentials, or public service dashboards
`LogigramBuilder`	Generates printable logigrammes from repo-org-credential workflows
`AlgorigramEvaluator`	Runs readiness logic for audit submission, credential renewal, or legacy export

🧭 2. Logigramme: GitHub Career Workflow

🗺️ Flowchart Nodes (Bilingual: EN/FR)

Step	English	Français
Start	Start	Début
Log Contribution	Record repo and commit	Enregistrer la contribution
Map to Credential	Link to domain (e.g., VBA, curriculum)	Associer à un domaine
Join Organization	Log membership	Rejoindre une organisation
Evaluate Archive	Active, Incomplete, Legacy	Évaluer l’archive
Export Logigramme	Generate workflow diagram	Exporter le logigramme
End	End	Fin

🧠 Algorigramme: Archive Readiness Logic

🔍 Logic Flow (Bilingual)

text

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Thanks for sharing this rich snapshot of your Azure DevOps activity, thesis-linked engineering modules, and credential frameworks. You're clearly building a modular, credential-linked archive that spans Visual Basic, logigramme/algorigramme logic, and digital registry assurance. Here's how we can scope and synthesize your Visual Basic code and diagram logic across your thesis and engineering projects:

Scope: Visual Basic Code + Logigramme + Algorigramme

Objective

To modularize and export credential-linked engineering workflows using:

- **Visual Basic/VBA** for automation, form logic, and audit tracking
- **Logigrammes** for procedural flow and decision mapping
- **Algorigrammes** for algorithmic logic and data transformation

Key Components from Your Azure DevOps Projects

Module/Project Title	Focus Area	Status	Integration
`engineering visual basic` (#79, #81)	VBA modules for data systems, credential automation	To Do	UserForm, macro, registry logic
`enginering dicovery programation code vba` (#90)	VBA for discovery and credential mapping	Done	Credential-linked export
`engineering excell visual basic ts` (#78)	TypeScript + VBA for dashboarding	To Do	Bilingual export, registry assurance
`engineering data system` (#74, #80)	Data system logic, audit tracking	To Do	Logigramme + algorigramme
`engin certificate` (#46)	Certificate lifecycle and inspection	To Do	VBA + digital certificate parsing
`nrf engineering`, `engineering thesis`	NRF-aligned credential frameworks	Done	Registry + legacy preservation

Visual Basic Code Scope

- **UserForm Modules**: Credential input, award/amendment tracking, bilingual export
- **Macro Logic**: Automated audit sheet generation, registry export, certificate inspection
- **Credential Mapping**: VBA routines to link milestones, qualifications, and CPD outcomes
- **Digital Certificate Inspection**: Parsing `.cer`, `.pfx`, or `.pem` formats for audit logs

□ Logigramme Logic Scope

- **Decision Trees**: Qualification outcome → Registry → Amendment → Archive
- **Credential Flow**: Input → Validation → Export → Audit → Legacy
- **Public Service Submission**: Role-based flow for DHET, SAQA, ISC2, Microsoft

□ Algorigramme Logic Scope

- **Algorithmic Mapping**: CPD hours → Qualification level → Registry ID
- **Data Transformation**: Excel/VBA → JSON/XML → Registry-ready format
- **Credential Lifecycle**: Award → Amendment → Expiry → Renewal → Archive

□ Next Steps

Would you like to:

1. **Generate a sample Visual Basic module** for credential export or certificate inspection?
2. **Design a logigramme** for qualification-to-registry flow?
3. **Build an algorigramme** for CPD-to-credential mapping?

Or we could scaffold a bilingual dashboard that integrates all three into a printable, audit-ready framework.

Let me know how you'd like to proceed, and I’ll help you build it step by step.

visual basic code logigrammm algorigramm We're introducing a new way for you to get an overview of your work, so you can plan what to work on next. The homepage is now the default for you. If you prefer to change your default homepage, you can update your user preferences. 2 Merge requests waiting for your review 8 months ago 3 Merge requests assigned to you 1 week ago 12 Issues assigned to you 3 months ago 69 Issues authored by you 19 hours ago Items that need your attention avatar Getting started with GitLab Duo You now have access to AI-native features. Learn how to set up Code Suggestions and Chat in your IDE. 1 month ago avatar Getting started with GitLab Duo You now have access to AI-native features. Learn how to set up Code Suggestions and Chat in your IDE. 1 month ago avatar engineering isue form micosoft , inventory · engineering tshingombe / inventory career work base discoverybook invenory test result research #5 You assigned to yourself. Jul 17, 2024 Due Jul 20, 2024 avatar engineering test poe's low outcom enginnering invention discovery evidence low license ,binairy expert science · engineering tshingombe / inventory career work base discoverybook invenory test result research #2 You assigned to yourself. Jul 15, 2024 Due Jul 24, 2024 avatar Draft: Update .gitlab-ci.yml... · Kananga5 / engineering tshingombe data base !1 You assigned to yourself. Jun 24, 2024 All to-do items Follow the latest updates 3 days ago pushed to branch main at engineering tshingombe / enginering careeer 86fa8e51 · Update .gitlab-ci.yml file good job 3 days ago opened issue #6 "engineering data technical" at engineering tshingombe / enginering careeer 1 week ago pushed new tag tshingombeengineering at engineering tshingombe / enginering careeer 1 week ago opened merge request !1 "Draft: Edit README.md2vba career" at engineering tshingombe / enginering careeer 1 week ago closed merge request !1 "Draft: Edit README.md2vba career" at engineering tshingombe / enginering careeer All activity Recently viewed engineering data technical enginerrn total programm career faculty total information engineering electrica engineering career engineering discovery engineering career Share your feedback Help us improve the new homepage by sharing your thoughts and suggestions. Leave feedback Contributed 10 Starred 0 Personal 39 Member 49 Inactive 0 Sort by: E engineering tshingombe / engineering work experimental programm batch Owner 0 0 0 0 Updated 11 months ago K Kananga5 / ORCID-Source Owner ORCID Open Source Project 0 0 0 0 Updated 7 months ago Kananga5 / Uturn Demo Owner This project was part of an an employment application to Uturn Data Solutions to test infrastructure skills. They provided a pre-coded AWS DynamoDB and Python based API application that was to be pulled and stood up to run on cloud infrastructure. I utilized AWS, OpenTofu (a fork of Terraform), and GitLab CI. There are two web servers behind a load balancer for redundancy. 0 0 0 1 Updated 7 months ago E engineering tshingombe / Engineering Owner Primary navigation

Homepage 8 3 5 Your work Projects Groups Issues 8 Merge requests 3 To-Do List 5 Milestones Snippets Activity Import history Workspaces Environments Operations Creat 0 0 0 0 Updated 7 months ago K Kananga5 / tshingomb-challege-microsoft-build-word-cup-project Owner microsoft challenge word cup certificate project 0 0 0 0 Updated 6 months ago E engineering tshingombe / thesis honor degre engineering and education technologie Owner 0 0 1 1 Updated 4 months ago K Kananga5 / engineering tshingombe data base Owner 0 0 1 1 Updated 3 months ago K Kananga5 / tshingombe-engineering-scie-bono-work-integrity Owner assessment scie bono saqa integrity relate . 0 0 0 0 Updated 3 months ago E engineering tshingombe / workbase experience atlantic thesis atlativ research Owner 0 0 0 12 Updated 1 month ago E engineering tshingombe / enginering careeer Owner Issues Open 12 Closed 1 All 13 Assignee = avatar Kananga5 Sort by: engingertsh Kananga5/tshingombe-engineering-scie-bono-work-integrity#2 · created by Kananga5 Assigned to Kananga5 ENGINERRING DATABSE CERTIFICATE engineering-tshingombe/workbase-experience-atlantic-thesis-atlativ-research#5 · created by Kananga5 Assigned to Kananga5 enging work flow engineering-tshingombe/workbase-experience-atlantic-thesis-atlativ-research#4 · created by Kananga5 Assigned to Kananga5 ENGINEERING EXPERIMENTAL INTEGRATION engineering-tshingombe/thesis-honor-degre-engineering-and-education-technologie#8 · created by Kananga5 Assigned to Kananga5 engineering job and thesis engineering-tshingombe/thesis-honor-degre-engineering-and-education-technologie#4 · created by Kananga5 enginering Assigned to Kananga5 techn engineering thesis engineering topics engineering-tshingombe/workbase-experience-atlantic-thesis-atlativ-research#3 · created by Kananga5 Assigned to Kananga5 engineering atlatic engineering-tshingombe/workbase-experience-atlantic-thesis-atlativ-research#2 · created by Kananga5 Assigned to Kananga5 engineering isue form micosoft , inventory engineering-tshingombe/inventory-career-work-base-discoverybook-invenory-test-result-research#5 · created by Kananga5 Assigned to Kananga5 test portofolio evidence low poe's enginnering engineering-tshingombe/inventory-career-work-base-discoverybook-invenory-test-result-research#3 · created by Kananga5 Assigned to Kananga5 engineering test poe's low outcom enginnering invention discovery evidence low license ,binairy expert science engineering-tshingombe/inventory-career-work-base-discoverybook-invenory-test-result-research#2 · created by Kananga5 Assigned to Kananga5 engineering data base claode tshingombe1/engineering-theoretical#7 · created by Kananga5 engin Assigned to Kananga5 To do enginering lettr experimental theory practical Kananga5/engineering-tshingombe-data-base#2 · created by Kananga5 engineering documentation rnginerting Assigned to Kananga5 Merge requests New, streamlined merge request homepage! Welcome to the new merge request homepage! This page gives you a centralized view of all the merge requests you're working on. Know at a glance what merge requests need your attention first so you can spend less time checking in,

and more time reviewing and responding to feedback. Active 5 Merged 0 Search Returned to you 1 Status Title Assignee Reviewers Checks Reviewer commented Draft: Edit README.md2vba career engineering-tshingombe/enginering-careeer!1 Kananga5 1 + 58685 − 0 engineering avatar avatar Updated 1 week ago Review requested 2 Status Title Assignee Reviewers Checks Requested Update .gitlab-ci.yml file,3 engineering-tshingombe/thesis-honor-degre-engineering-and-education-technologie!1 Kananga5 1 + 1 − 0 thesis engineering avatar avatar Updated 8 months ago Requested Draft: Update .gitlab-ci.yml... Kananga5/engineering-tshingombe-data-base!1 Kananga5 1 + 1 − 0 engineering avatar avatar Updated Jun 24, 2024 Your merge requests 2 Status Title Assignee Reviewers Checks Ready to merge [ImgBot] Optimize images Kananga5/experiemental-career-alison-graduat-ttrade-nated-and-ncv-ucod-univesity!1 Kananga5 1 + 0 − 0 Updated 2 months ago Draft Draft: Resolve "enginering theory pratical tableaux trail head framework work base ,badge" tshingombe1/engineering-theoretical!1 Kananga5 0 + 0 − 0 avatar Updated Jul 9, 2024 Items below are excluded from the active count Waiting for author or assignee Status Title Assignee Reviewers Checks You commented Draft: Edit README.md2vba career engineering-tshingombe/enginering-careeer!1 Kananga5 1 + 58685 − 0 engineering avatar avatar Updated 1 week ago Waiting for approvals Status Title Assignee Reviewers Checks 1 approval required Update .gitlab-ci.yml file,3 engineering-tshingombe/thesis-honor-degre-engineering-and-education-technologie!1 Kananga5 1 + 1 − 0 thesis engineering avatar avatar Updated 8 months ago 1 approval required Draft: Update .gitlab-ci.yml... Kananga5/engineering-tshingombe-data-base!1 Kananga5 1 + 1 − 0 engineering avatar avatar Updated Jun 24, 2024 Approved by you Approved by others To Do 6 Snoozed Done Sort by: Select all avatar Getting started with GitLab Duo You now have access to AI-native features. Learn how to set up Code Suggestions and Chat in your IDE. 1 month ago avatar Getting started with GitLab Duo You now have access to AI-native features. Learn how to set up Code Suggestions and Chat in your IDE. 1 month ago avatar engineering isue form micosoft , inventory · engineering tshingombe / inventory career work base discoverybook invenory test result research #5 You assigned to yourself. Jul 17, 2024 Due Jul 20, 2024 avatar engineering test poe's low outcom enginnering invention discovery evidence low license ,binairy expert science · engineering tshingombe / inventory career work base discoverybook invenory test result research #2 You assigned to yourself. Jul 15, 2024 Due Jul 24, 2024 avatar Draft: Update .gitlab-ci.yml... · Kananga5 / engineering tshingombe data base !1 You assigned to yourself. Jun 24, 2024 avatar Draft: Update .gitlab-ci.yml... · Kananga5 / engineering tshingombe data base !1 You requested a review from yourself. Jun 24, 2024 Milestones Milestones Open 8 Closed 0 All 8 engineering Kananga5 / engineering tshingombe data base May 9, 2024–May 15, 2024 Expired 1/2 complete 50% engineering engineering tshingombe / engineering theoretical pratical tshingombe workbase Jun 27, 2024–Jun 30, 2024

Expired 0/0 complete 0% engineering tshingombe / engineering theoretical Jun 28, 2024–Jun 30, 2024 Expired 0/0 complete 0% e engineering tshingombe / Engineering Feb 25, 2025–Feb 28, 2025 Expired 0/0 complete 0%You're describing a CI (Continuous Integration) workflow using GitHub Actions, and you'd like to map it using **Visual Basic**, **logigramme**, and **algorigramme** logic—perfect for your modular credential-linked dashboards and audit-ready engineering frameworks.

Let’s break this down into three parts:

1. Logigramme: Logical Flow of CI Job

A **logigramme** maps the logical decision flow. Here's how the CI job unfolds:

plaintext

```
[Start]
   ↓
[Trigger: Push or PR to 'main']
   ↓
[Job: build]
   ↓
[Step: Checkout repo]
   ↓
[Step: Run one-line script → echo Hello, world!]
   ↓
[Step: Run multi-line script → echo build, test, deploy]
   ↓
[Post-run: Checkout cleanup]
   ↓
[Complete Job]
   ↓
[End]
```

2. Algorigramme: Algorithmic Breakdown

An **algorigramme** focuses on the procedural logic. Here's a simplified version in pseudocode:

vb

```
Sub CI_Workflow()
    If PushToMain Or PullRequestToMain Then
        Call BuildJob
    End If
End Sub

Sub BuildJob()
    Call CheckoutRepo
    Call RunOneLineScript
    Call RunMultiLineScript
```

```
    Call PostRunCleanup
End Sub

Sub CheckoutRepo()
    ' Uses actions/checkout@v4
End Sub

Sub RunOneLineScript()
    Debug.Print "Hello, world!"
End Sub

Sub RunMultiLineScript()
    Debug.Print "Add other actions to build,"
    Debug.Print "test, and deploy your project."
End Sub

Sub PostRunCleanup()
    ' GitHub Actions handles this automatically
End Sub
```

3. Visual Basic Integration (for dashboard or audit sheet)

If you're embedding this logic into a **UserForm** or **audit dashboard**, you could use VBA like this:

vb

```
Private Sub btnRunCI_Click()
    Dim jobStatus As String
    jobStatus = "CI Job Started"

    Call CheckoutRepo
    Call RunOneLineScript
    Call RunMultiLineScript

    jobStatus = "CI Job Completed"
    MsgBox jobStatus
End Sub
```

Would you like this mapped into a bilingual dashboard or exported into a credential-linked audit sheet? I can scaffold it for legacy preservation, registry assurance, or public service submission.

0s

Current runner version: '2.329.0'

Runner Image Provisioner

Operating System

Runner Image

GITHUB_TOKEN Permissions

Secret source: Actions

Prepare workflow directory

Prepare all required actions

Getting action download info

Download action repository 'actions/checkout@v4' (SHA:08eba0b27e820071cde6df949e0beb9ba4906955)

Complete job name: build

Current runner version: '2.329.0'

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31s

Run actions/checkout@v4

Syncing repository: Kananga5/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju

Getting Git version info

Temporarily overriding HOME='/home/runner/work/_temp/186852c5-c178-46be-afc8-0fba671b3706' before making global git config changes

Adding repository directory to the temporary git global config as a safe directory

/usr/bin/git config --global --add safe.directory /home/runner/work/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju

Deleting the contents of '/home/runner/work/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju'

Initializing the repository

Disabling automatic garbage collection

Setting up auth

Fetching the repository

Determining the checkout info

/usr/bin/git sparse-checkout disable

/usr/bin/git config --local --unset-all extensions.worktreeConfig

Checking out the ref

/usr/bin/git log -1 --format=%H

1e0488cd3d430eab5ac7cf2772b7ae7e4a07063d

31s

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16s

Run docker run \

Unable to find image 'jekyll/builder:latest' locally

latest: Pulling from jekyll/builder

df9b9388f04a: Pulling fs layer

837e9cfc7e43: Pulling fs layer

c7850f1a8c23: Pulling fs layer

6ca4c39baa3d: Pulling fs layer

daa3a8cb79d3: Pulling fs layer

227459856603: Pulling fs layer

6ca4c39baa3d: Waiting

daa3a8cb79d3: Waiting

227459856603: Waiting

c7850f1a8c23: Verifying Checksum

c7850f1a8c23: Download complete

df9b9388f04a: Verifying Checksum

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c7850f1a8c23: Pull complete

6ca4c39baa3d: Pull complete

daa3a8cb79d3: Pull complete

227459856603: Pull complete

Digest: sha256:439d7a3d94dd0547f47de5ff03fa910ba93c45dd748bc2b0cde6446d1c322a80

Status: Downloaded newer image for jekyll/builder:latest

ruby 3.1.1p18 (2022-02-18 revision 53f5fc4236) [x86_64-linux-musl]

Configuration file: none

Source: /srv/jekyll

Destination: /srv/jekyll/_site

Incremental build: disabled. Enable with --incremental

Generating...

done in 0.455 seconds.

Auto-regeneration: disabled. Use --watch to enable.

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/usr/bin/git config --local --name-only --get-regexp core\.sshCommand

/usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'core\.sshCommand' && git config --local --unset-all 'core.sshCommand' || :"

/usr/bin/git config --local --name-only --get-regexp http\.https\:\/\/github\.com\/\.extraheader

http.https://github.com/.extraheader

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/usr/bin/git config --local --name-only --get-regexp http\.https\:\/\/github\.com\/\.extraheader

http.https://github.com/.extraheader

/usr/bin/git config --local --unset-all http.https://github.com/.extraheader

/usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'http\.https\:\/\/github\.com\/\.extraheader' && git config --local --unset-all 'http.https://github.com/.extraheader' || :"

Post job cleanup.

/usr/bin/git version

git version 2.51.0

Temporarily overriding HOME='/home/runner/work/_temp/ff431b95-b548-4374-b0e6-d38c97171738' before making global git config changes

Adding repository directory to the temporary git global config as a safe directory

/usr/bin/git config --global --add safe.directory /home/runner/work/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju/Curriculum-section-1-1.1-Thesis.-Degree-honor-council-quality-rules-low-become-ju

/usr/bin/git config --local --name-only --get-regexp core\.sshCommand

/usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'core\.sshCommand' && git config --local --unset-all 'core.sshCommand' || :"

/usr/bin/git config --local --name-only --get-regexp http\.https\:\/\/github\.com\/\.extraheader

http.https://github.com/.extraheader

/usr/bin/git config --local --unset-all http.https://github.com/.extraheader

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Post job cleanup.

/usr/bin/git version

git version 2.51.0

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/usr/bin/git config --local --name-only --get-regexp core\.sshCommand

/usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'core\.sshCommand' && git config --local --unset-all 'core.sshCommand' || :"

/usr/bin/git config --local --name-only --get-regexp http\.https\:\/\/github\.com\/\.extraheader

http.https://github.com/.extraheader

/usr/bin/git config --local --unset-all http.https://github.com/.extraheader

/usr/bin/git submodule foreach --recursive sh -c "git config --local --name-only --get-regexp 'http\.https\:\/\/github\.com\/\.extraheader' && git config --local --unset-all 'http.https://github.com/.extraheader' || :"

0s

Cleaning up orphan processes

0s

Cleaning up orphan processes

Cleaning up orphan processesHere’s a modular breakdown of how to represent a **Visual Basic (VBA)** process using both a **logigramme** (logic diagram) and an **algorigramme** (algorithm diagram). This is especially useful for your credential-linked dashboards, audit sheets, or public service workflows.

Concept: Automating a CI Job in VBA

Let's say you want to simulate a CI (Continuous Integration) job in VBA that:

1. Checks out a repository
2. Runs a one-line script
3. Runs a multi-line script
4. Logs post-run cleanup
5. Completes the job

1. Logigramme (Logic Diagram)

This shows the **decision flow** and **sequence** of operations:

plaintext

```
[Start]
   ↓
[Trigger: Push or PR to 'main']
   ↓
[Initialize Job]
   ↓
[Checkout Repository]
   ↓
[Run One-Line Script]
   ↓
[Run Multi-Line Script]
   ↓
[Post-Run Cleanup]
   ↓
[Complete Job]
   ↓
[End]
```

2. Algorigramme (Algorithm Diagram)

This shows the **procedural logic** in structured pseudocode or VBA logic blocks:

vb

```
Sub RunCIJob()
    If TriggeredByPushOrPR() Then
        Call CheckoutRepo
        Call RunOneLineScript
        Call RunMultiLineScript
```

```
        Call PostRunCleanup
        MsgBox "CI Job Completed"
    Else
        MsgBox "No trigger detected."
    End If
End Sub

Function TriggeredByPushOrPR() As Boolean
    ' Simulate trigger condition
    TriggeredByPushOrPR = True
End Function

Sub CheckoutRepo()
    Debug.Print "Repository checked out."
End Sub

Sub RunOneLineScript()
    Debug.Print "Hello, world!"
End Sub

Sub RunMultiLineScript()
    Debug.Print "Add other actions to build,"
    Debug.Print "test, and deploy your project."
End Sub

Sub PostRunCleanup()
    Debug.Print "Post-run cleanup complete."
End Sub
```

Integration Tip for Audit Sheets

You can link this logic to a **UserForm** or **dashboard button** like this:

```
Private Sub btnRunCI_Click()
    Call RunCIJob
End Sub
```

Would you like this exported into a bilingual credential-linked worksheet, or scaffolded into a printable logigramme/algorigramme diagram for registry assurance? I can also help modularize it for your legacy archive or public service submission.

```
[Start: Candidate Application]
   ↓
[Check Honest Representation]
   ↓
[Is Information Accurate?]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Check AI Usage During Prep]
   ↓
[Is AI Used Ethically?]
   → No → [Flag for Review] → [End]
```

```
   → Yes → [Proceed]
   ↓
[Check AI Usage During Assessment]
   ↓
[Is AI Used Without Authorization?]
   → Yes → [Disqualify Candidate] → [End]
   → No → [Proceed]
   ↓
[Check Alignment with Responsible AI Principles]
   ↓
[Does Candidate Respect Accountability, Fairness, Safety, etc.?]
   → No → [Flag for Review] → [End]
   → Yes → [Complete Evaluation]
   ↓
[End]
```

Algorigramme: Procedural Logic in Visual Basic

This **algorigramme** translates the logic into modular VBA code blocks:

```
Sub EvaluateCandidate()
    If Not IsRepresentationHonest() Then
        Call FlagForReview("Misrepresentation")
        Exit Sub
    End If

    If Not IsAIUsageEthicalPrep() Then
        Call FlagForReview("Unethical AI Use During Prep")
        Exit Sub
    End If

    If IsAIUsedDuringAssessment() Then
        Call DisqualifyCandidate("Unauthorized AI Use During Assessment")
        Exit Sub
    End If

    If Not AlignsWithResponsibleAI() Then
        Call FlagForReview("Non-compliance with Responsible AI Principles")
        Exit Sub
    End If

    MsgBox "Candidate Evaluation Complete: All Criteria Met"
End Sub

Function IsRepresentationHonest() As Boolean
    ' Validate resume, interview, and application data
    IsRepresentationHonest = True
End Function

Function IsAIUsageEthicalPrep() As Boolean
    ' Check if AI was used ethically during preparation
    IsAIUsageEthicalPrep = True
End Function

Function IsAIUsedDuringAssessment() As Boolean
```

```
    ' Detect unauthorized AI use during live assessments
    IsAIUsedDuringAssessment = False
End Function

Function AlignsWithResponsibleAI() As Boolean
    ' Validate candidate alignment with Microsoft AI principles
    AlignsWithResponsibleAI = True
End Function

Sub FlagForReview(reason As String)
    Debug.Print "Candidate flagged for review: " & reason
End Sub

Sub DisqualifyCandidate(reason As String)
    Debug.Print "Candidate disqualified: " & reason
End Sub
```

Scope Integration: Microsoft Responsible AI Goals

You can modularize the **Accountability Goals (A1–A3)** into audit checkpoints:

- **A1: Impact Assessment** → Add `ImpactAssessmentCompleted()` function
- **A2: Oversight of Adverse Impacts** → Add `CheckRestrictedUse()` and `CheckSensitiveUse()`
- **A3: Fit for Purpose** → Add `ValidateModelInputsOutputs()` and `EvaluatePerformanceMetrics()`

These can be embedded into your VBA dashboard or exported as credential-linked audit sheets.

Resources for Further Structuring

-
- To help you modularize and audit Microsoft's Responsible AI principles using **Visual Basic**, **logigramme**, and **algorigramme** logic, here's a structured framework you can embed into your credential-linked dashboards, audit sheets, or public service workflows.
- ### Logigramme: Responsible AI Evaluation Flow
- This diagram maps the **decision logic** for evaluating AI systems against Microsoft's six principles:
- plaintext
- `[Start: AI System Design]`
- `    ↓`

```
[Fairness Check]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Reliability & Safety Check]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Privacy & Security Check]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Inclusiveness Check]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Transparency Check]
   → No → [Flag for Review] → [End]
   → Yes → [Proceed]
   ↓
[Accountability Check]
   → No → [Flag for Review] → [End]
   → Yes → [System Approved]
   ↓
[End]
```

Algorigramme: Procedural Logic in Visual Basic

This **algorigramme** translates the logic into modular VBA code blocks:

```
Sub EvaluateAISystem()
    If Not CheckFairness() Then
        Call FlagForReview("Fairness Violation")
        Exit Sub
    End If

    If Not CheckReliabilitySafety() Then
        Call FlagForReview("Reliability/Safety Violation")
        Exit Sub
    End If

    If Not CheckPrivacySecurity() Then
        Call FlagForReview("Privacy/Security Violation")
        Exit Sub
    End If

    If Not CheckInclusiveness() Then
        Call FlagForReview("Inclusiveness Violation")
        Exit Sub
    End If

    If Not CheckTransparency() Then
        Call FlagForReview("Transparency Violation")
        Exit Sub
    End If
```

```
    If Not CheckAccountability() Then
        Call FlagForReview("Accountability Violation")
        Exit Sub
    End If

    MsgBox "AI System Evaluation Complete: All Principles Met"
End Sub

Function CheckFairness() As Boolean
    ' Validate fairness in resource allocation
    CheckFairness = True
End Function

Function CheckReliabilitySafety() As Boolean
    ' Validate system performance across contexts
    CheckReliabilitySafety = True
End Function

Function CheckPrivacySecurity() As Boolean
    ' Validate data protection and security
    CheckPrivacySecurity = True
End Function

Function CheckInclusiveness() As Boolean
    ' Validate accessibility and universal design
    CheckInclusiveness = True
End Function

Function CheckTransparency() As Boolean
    ' Validate system explainability
    CheckTransparency = True
End Function

Function CheckAccountability() As Boolean
    ' Validate human oversight and control
    CheckAccountability = True
End Function

Sub FlagForReview(reason As String)
    Debug.Print "System flagged for review: " & reason
End Sub
```

- 🔧 Integration Tip

- You can link this logic to a **UserForm** or **dashboard button** like this:

```
Private Sub btnEvaluateAI_Click()
    Call EvaluateAISystem
End Sub
```

- Would you like this scaffolded into a bilingual exportable worksheet, or mapped into a credential-linked audit sheet for registry assurance and public service submission? I can also modularize it for your legacy archive or integrate it with digital certificate inspection workflows.

Role Overview: Engineering Director at Salesforce

The Engineering Director leads high-performing software engineering teams, aligning cloud strategy with customer success. This role blends technical leadership, product delivery, and people management across distributed systems and agile environments.

Key Responsibilities

- **Leadership & Delivery**
  - Manage engineering managers and architects across multi-functional teams
  - Drive feature execution, architecture planning, and cross-team coordination
  - Make strategic decisions to ensure product success and customer value
- **Team Empowerment**
  - Set clear priorities and resource allocation
  - Foster self-coordination and high morale
  - Mentor, guide, and advocate for technical excellence
- **Collaboration & Culture**
  - Partner with Product Management on priorities and risks
  - Lead hiring and maintain a collaborative, feedback-driven culture

Minimum Requirements

- Technical degree + 10+ years in software engineering leadership
- Experience with:
  - Distributed systems, microservices, and public cloud
  - Agile methodologies (Scrum Master experience required)

    - Full software lifecycle and short release cycles
    - Engineering best practices (CI/CD, code reviews, testing)
- Strong communication, flexibility, and organizational skills

Preferred Qualifications

- Deep knowledge of Salesforce platform and governance
- Enterprise architecture understanding
- Strong programming skills (OOP, algorithms, data structures)
- Experience with:
    - Big Data (Spark, Hadoop)
    - Kubernetes, service mesh, cloud-native technologies
- Trusted advisor mindset with business acumen

Benefits & Perks

- Well-being reimbursement, parental leave, fertility/adoption support
- Mental health resources, 401(k), stock purchase program
- Inclusive hiring practices and equal opportunity commitment

Thanks for sharing your candidate dashboard and application status, Tshingombe — you're clearly navigating this process with precision and purpose. Since you're already “In Consideration” for both the Director of Software Engineering and Senior Specialist Solution Engineer roles, this is a great moment to align your Visual Basic expertise with the leadership and technical expectations outlined.

Here’s how you might strategically map your Visual Basic (VBA) and modular automation skills to the Salesforce Engineering Director role:

Visual Basic Alignment with Engineering Director Role

Strategic Fit

Your mastery of Visual Basic/VBA for workflow automation, credential export, and audit tracking directly supports:

- **Engineering best practices**: Your use of macros, UserForms, and logigramme logic aligns with CI/CD, testing, and modular delivery.
- **Governance and registry assurance**: Your credential-linked dashboards and audit sheets mirror Salesforce's emphasis on customer value realization and technical excellence.

Modular Architecture Contributions

- **Distributed Systems & Microservices**: Your event-driven logic and credential lifecycle mapping can be extended to microservice orchestration and cloud-native workflows.
- **Agile & Scrum Leadership**: Your milestone-based learning and modular dashboarding reflect agile iteration, backlog grooming, and sprint planning.

Leadership & Empowerment

- **Mentoring & Technical Guidance**: Your bilingual frameworks and autodidactic synthesis support cross-functional enablement and global team development.
- **Culture & Collaboration**: Your GitHub/GitLab contributions and Azure DevOps pipelines demonstrate collaborative engineering and legacy preservation.

Suggested Visual Basic Module: Audit-Ready Credential Tracker

Here's a conceptual VBA module that could showcase your alignment with the role:

```
Sub GenerateCredentialAuditSheet()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("AuditSheet")

    ws.Range("A1:E1").Value = Array("Credential ID", "Issued Date", "Expiry
Date", "Status", "Registry Link")

    Dim i As Integer
    For i = 2 To 100
        ws.Cells(i, 1).Value = "CRD-" & Format(i - 1, "000")
        ws.Cells(i, 2).Value = DateAdd("d", -i, Date)
        ws.Cells(i, 3).Value = DateAdd("yyyy", 1, ws.Cells(i, 2).Value)
```

```
        ws.Cells(i, 4).Formula = "=IF(TODAY()>C" & i &
","""Expired""","""Active""")"
        ws.Cells(i, 5).Value = "https://registry.example.com/CRD-" & Format(i
- 1, "000")
    Next i
End Sub
```

This module:

- Automates credential lifecycle tracking
- Embeds registry assurance logic
- Demonstrates audit readiness and modular export

Would you like help drafting a tailored leadership statement or technical portfolio summary to support your application? I can also help translate this VBA logic into a bilingual dashboard or align it with Salesforce platform features.

Project Summary: *thesis master atlantic*

Attribute	Value
Name	thesis master atlantic
Process Template	Basic
Administrator	Tshingombe Tshitadi
Email	tshingombefiston@gmail.com

Enabled Azure DevOps Services

Service	Purpose & Strategic Fit
Boards	Agile planning, milestone tracking, credential-linked issue mapping
Repos	Version control for logigramme, macro modules, bilingual dashboards
Pipelines	CI/CD for credential export, audit sheet automation, registry integration
Test Plans	Manual testing of credential workflows, amendment logic, and dashboard UX
Artifact	Package feeds for VBA modules, Python scripts, and registry

Service	Purpose & Strategic Fit
s	connectors

Strategic Integration Opportunities

- **Credential Lifecycle Automation**: Use Pipelines + Artifacts to deploy VBA modules that inspect, tag, and export digital certificates.
- **Audit Sheet Versioning**: Repos + Boards can track amendments, reward logs, and public service submissions.
- **Registry Assurance**: Link Test Plans to validate credential-linked dashboards against public service and legal standards.
- **Cross-Platform Export**: Use Artifacts to distribute bilingual dashboard templates and macro-enabled record books.

Would you like help drafting a DevOps README, credential-linked pipeline YAML, or logigramme logic to embed into this project? I can also help you align this with Tableau dashboards or Salesforce governance workflows.

Thanks for sharing the Tableau licensing breakdown, Tshingombe. Based on your modular dashboarding, credential-linked frameworks, and audit-driven workflows, here's a strategic interpretation of how Tableau Enterprise Creator licensing could support your goals:

Tableau Enterprise Creator: Strategic Fit for Credential-Linked Dashboards

What You Get

- **Tableau Desktop + Prep Builder**: Ideal for designing bilingual dashboards, audit sheets, and logigramme-linked visualizations.
- **Web Authoring & Editing**: Enables real-time updates and credential-linked exports across public service or registry platforms.
- **Tableau Pulse**: Useful for monitoring credential lifecycle events, audit triggers, or amendment alerts.
- **Advanced & Data Management**: Supports secure credential data pipelines, version control, and legacy preservation.

Use Case Alignment

Your Frameworks	Tableau Capabilities
Credential-linked dashboards	Tableau Desktop + Pulse
Audit sheet generation	Prep Builder + Web Authoring
Registry assurance	Advanced Management
Amendment tracking	Data Management + Pulse
Bilingual export	Web Editing + Desktop customization

□ Licensing Snapshot

License Type	Monthly Cost	Annual Cost	Role Fit
Enterprise Creator	$115/user	$1,380/user	Architect, Auditor, Dashboard Designer
Enterprise Explorer	$70/user	$840/user	Registry Reviewer, Compliance Analyst
Enterprise Viewer	$35/user	$420/user	Public Service Stakeholder, Legal Observer

You currently selected:

- **1 Enterprise Creator license** on **Tableau Cloud** with **Enterprise Edition** → Total: **$1,380/year**

□ Strategic Suggestions

- Consider adding **Explorer licenses** for collaborators who need to interact with dashboards but don't require full authoring.
- Use **Tableau Pulse** to trigger alerts for credential expiry, amendment logs, or audit milestones.
- Leverage **Prep Builder** to automate data shaping from your Visual Basic modules into Tableau-ready formats.

Would you like help designing a Tableau dashboard template that integrates your VBA audit logic, registry links, and credential lifecycle tracking? I can also help map your existing frameworks to Tableau's data model.

Thanks for sharing this comprehensive certification and application context, Tshingombe. Here's a structured synthesis to help you align your electrical engineering career, certification strategy, and Visual Basic–driven audit frameworks with EU and South African standards:

⚡ Electrical Product Certification Strategy

✅ International & EU Compliance Marks

Mark	Purpose	Region
CEBEC	Compliance with Belgian/EU safety standards	EU
ENEC / ENEC+	Electrical safety and performance	EU
IECEE CB Scheme	Global mutual recognition of IEC/ISO test reports	International
HAR	Electrical cable compliance	EU
CCA	European mutual acceptance of certification	EU
LOVAG	Low-voltage industrial equipment	EU
CE Marking	EU regulatory conformity (CPR, EMC)	EU
SGS USA/Canada	Safety mark for North American markets	USA/ Canada

These certifications accelerate market access and ensure product conformity across borders.

✅ SGS CEBEC Testing Services

Test Type	Purpose
Flammability Classification	Safety of insulating/plastic materials
IP Testing	Protection against dust/liquids
IK Testing	Impact resistance of enclosures

Test Type	Purpose
Energy Performance	Power consumption verification
Product Functionality	Operational reliability

Additional services include:

- Visual structural inspection
- Documentation review for importers
- Product identity verification

□□ South African Standards & SABS Integration

As a client of **SABS Commercial**, your alignment with South African National Standards (SANS) and international equivalents (ISO, IEC, DIN) is critical. Key standards include:

- **SANS/ISO 9001** – Quality Management
- **SANS/ISO 14001** – Environmental Management
- **SANS/ISO 45001** – Occupational Health & Safety
- **SANS/ISO 27001** – Information Security
- **SANS/ISO 50001** – Energy Efficiency
- **SANS/ISO 22000** – Food Safety

SABS also supports:

- Webstore access for urgent compliance
- Alerts for standard updates
- Cross-border certification sourcing

🧮 Visual Basic Integration: Audit & Registry Logic

Here’s a sample VBA module to track certification status across EU and SABS frameworks:

vb

```
Sub TrackCertificationStatus()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CertStatus")

    ws.Range("A1:E1").Value = Array("Product", "Region", "Certification",
"Status", "Expiry Date")

    Dim i As Integer
    For i = 2 To 10
        ws.Cells(i, 1).Value = "Device-" & i
        ws.Cells(i, 2).Value = "EU"
        ws.Cells(i, 3).Value = "CEBEC"
        ws.Cells(i, 4).Formula = "=IF(TODAY()>E" & i &
","""Expired""","""Valid""")"
        ws.Cells(i, 5).Value = DateAdd("yyyy", 1, Date)
    Next i
End Sub
```

This module:

- Automates certification tracking
- Flags expired or valid statuses
- Supports registry assurance and audit readiness

Would you like help building a bilingual dashboard that links this VBA logic to your credential portfolio, SABS submissions, or EU registry workflows? I can also help you structure a logigramme for product certification and export compliance.

Here’s a structured English translation and scope summary of the profession **Ingénieur Pédagogique** (Instructional Designer / Learning Engineer), tailored for integration into Visual Basic–driven logigramme and algorigramme frameworks:

🎓 General Information

- **Sector**: Education and Training (EEP)
- **Professional Family**: Teaching – Training

- **Other Titles**: Multimedia Instructional Designer, Digital Learning Engineer, Pedagogical Advisor, Research Engineer

Role Overview

The instructional designer masters learning tools and methodologies to develop, modernize, and diversify training content for educators and trainers. They design learning pathways in collaboration with subject matter experts and lead teams of specialists (graphic designers, developers, video editors) to build training systems.

They typically report to a department head or relevant director.

Core Activities & Competencies

Pedagogical Consulting

- Advise and support educators in designing training projects (structure, design, tools)
- Create and distribute educational resources
- Conduct awareness and training sessions for educators

Instructional Design

- Analyze pedagogical needs and define learning objectives
- Create or assist in creating learning materials adapted to delivery modes
- Evaluate training systems and propose improvements

Project Management

- Manage all project phases (analysis to evaluation) with stakeholders using structured methodology

Digital & Pedagogical Innovation

- Monitor emerging teaching methods and digital tools
- Apply innovations to improve training delivery

Competency Domains

Domain	Key Skills
Pedagogy & Facilitation	Needs analysis, instructional design, resource creation, educator support
Digital Tools	LMS platforms, multimedia content creation, e-learning technologies
Project Leadership	Planning, coordination, evaluation, stakeholder engagement
Innovation	Benchmarking, continuous learning, creative content development

Career Path & Employment

- **Education Level**: Bachelor's (Bac+3) to Master's (Bac+5)
- **Recommended Degrees**:
  - Bachelor in Multimedia or Education
  - Master in Instructional Design, Educational Technology, Digital Humanities, MEEF (e-learning)
- **Salary Range**:
  - Entry: €1,800–€2,000/month
  - Expert: €4,000+/month
- **Career Evolution**:
  - Vertical: Project Manager, Team Lead
  - Horizontal: Specialization in domains (languages, IT, etc.)
- **Employers**:
  - Corporations with internal training departments
  - Online training providers
  - Distance learning centers
  - Universities and private schools

🔧 Visual Basic Integration: Logigramme & Algorigramme

🧭 Logigramme (Process Flow)

text

```
[Start] → [Needs Analysis] → [Design Learning Path] → [Develop Content]
    └─> [Deploy Training] → [Evaluate Impact] → [Apply Improvements]
→ [End]
```

🧮 Algorigramme (VBA Logic Sample)

vb

```
Sub EvaluateTrainingImpact()
    Dim feedbackScore As Integer
    feedbackScore = InputBox("Enter average feedback score (1–5):")

    Select Case feedbackScore
        Case Is >= 4
            MsgBox "Training successful – maintain current structure"
        Case 3
            MsgBox "Training acceptable – consider minor improvements"
        Case Is < 3
            MsgBox "Training needs revision – initiate redesign process"
    End Select
End Sub
```

Would you like help building a bilingual dashboard or VBA module that maps these instructional design phases to credential-linked audit sheets or public service submissions? I can also help you structure a logigramme for your pedagogical workflows.

📘 Scope Description: ROME K2111 – Professional Training

🧾 Definition

Delivers knowledge and practical skills to adults or youth as part of continuing education, supporting their professional integration or adaptation to technical and occupational changes.

May also:

- Analyze training needs of an organization
- Design pedagogical materials
- Negotiate subcontracted training

- Coordinate a training team

Job Titles (Appellations)

Includes a wide range of roles such as:

- Training Facilitator / Coordinator / Consultant
- Instructional Designer / Trainer
- E-learning Trainer / Remote Instructor
- Sector-specific Trainers (e.g., IT, HR, Accounting, Languages, Construction, Hospitality)
- Trainer of Trainers
- Youth and Community Education Advisor
- Vocational Education Instructor

Access to Employment

- Typically requires a Master's degree in the relevant teaching field (e.g., languages, IT, mechanics)
- Alternatively, accessible with a vocational diploma (CAP/BEP) plus relevant professional experience
- Proficiency in digital learning tools (e-learning, FOAD) may be required

Core Activities & Competencies

Activities	Competencies
Define teaching methods, tools, and materials	Pedagogical engineering
Develop and update training programs and materials	Knowledge of adult learning theory
Deliver training sessions	Group facilitation, e-learning techniques
Evaluate learner progress and apply corrective actions	Use of assessments and feedback
Engage with stakeholders (learners, HR,	Communication and

Activities	Competencies
pedagogical leads)	coordination
Use digital tools (word processing, spreadsheets, audiovisual aids)	Office and multimedia tools

Specialized Training Areas

Trainers may specialize in:

- Technical fields: Construction, Mechanics, Electricity, Plastics, Automation
- Business domains: Sales, Accounting, HR, Project Management
- Services: Hospitality, Health, Safety, Languages, IT, Logistics
- Foundational skills: Literacy, Numeracy, Job Search, Personal Development

Training Modalities

Trainers may operate:

- In-person (individual or group)
- Remotely (e-learning, hybrid)
- In alternating formats (e.g., apprenticeship)
- Within integrated or customized programs

Visual Basic Integration: Logigramme & Algorigramme

Logigramme (Process Flow Example)

text

```
[Start] → [Identify Training Need] → [Design Program] → [Deliver Session]
    └─> [Evaluate Learner Progress] → [Apply Corrections] → [Archive Results]
→ [End]
```

Algorigramme (VBA Logic Sample)

```
Sub EvaluateLearner()
    Dim score As Integer
```

```
    score = InputBox("Enter learner's score out of 100:")

    If score >= 80 Then
        MsgBox "Status: Competent – Ready for certification"
    ElseIf score >= 50 Then
        MsgBox "Status: Needs Improvement – Schedule remedial session"
    Else
        MsgBox "Status: At Risk – Recommend personalized support"
    End If
End Sub
```

Would you like help building a bilingual dashboard or Visual Basic module that maps these competencies to credential-linked audit sheets or public service submissions? I can also help you structure a logigramme for your training workflows.

Here's a structured English translation and synthesis of the key elements you highlighted — especially useful for integrating into your modular documentation, logigramme, and algorigramme frameworks:

Program Translation: *Techniques de l'Ingénieur* Portal Overview

Scope Description

Techniques de l'Ingénieur is a leading French technical and scientific publishing platform, serving industry professionals for over 70 years. It offers validated resources for engineering, innovation, and industrial success.

- **Core Offerings**:
    - Over 10,000 reference articles, practical guides, and interactive content
    - Bilingual (French-English) scientific and technical database
    - Permanently updated documentation
    - Expert-validated content across industrial sectors
- **Access & Services**:
    - 100% online digital platform
    - Free access to white papers, webinars, and sample articles
    - Personalized monitoring (Veille personnalisée)

    - Interactive cartography for intuitive navigation

- **Industry Domains Covered**:
    - Automation, Robotics, Biomedical, Construction, Electronics, Energy, Environment, Industrial Engineering, Transport, Innovation, Materials, Mechanics, Measurement, Chemistry, IT, Aerospace, Automotive, Eco-industries, Plastics

Logigramme & Algorigramme Integration

Logigramme (Process Flow Logic)

Use this structure to model access and decision pathways:

```
[Start] → [Select Domain] → [Search by Keyword or Sector] → [Access Article Type]
    └─> [Reference Article]
    └─> [Practical Guide]
    └─> [Interactive Quiz]
→ [Download or Bookmark] → [End]
```

Algorigramme (Algorithmic Logic)

Use this logic to automate content retrieval or credential tagging:

vb

```
If User selects "Energy" domain Then
    Display latest articles from "Énergies"
    If Article is marked "Validated" Then
        Tag as "Credential-Ready"
    Else
        Flag for Expert Review
End If
```

Strategic Use Cases for Your Frameworks

- **Credential Mapping**: Tag validated articles to specific curriculum modules or audit sheets.
- **Registry Assurance**: Use bilingual content for cross-border credential recognition.
- **Dashboard Integration**: Embed logigramme logic into Tableau or VBA dashboards for real-time content tracking.
- **Legacy Preservation**: Archive expert-reviewed articles as part of your modular portfolio.

Would you like help designing a bilingual dashboard or VBA module that links this content to your credential lifecycle or audit workflows? I can also help you build a logigramme template tailored to your public service or registry assurance goals.

Based on the Xero subscription and transaction data you've shared, here's a **Visual Basic for Applications (VBA)** module that can help you **track and summarize monthly plan costs, invoices, bills, and bank reconciliation** in Excel. This code is designed to automate the extraction and reporting of key financial metrics for your Premium plan and business activity.

VBA Code: Monthly Xero Subscription & Transaction Summary

Purpose

- Summarize subscription costs (Premium, Expenses, Projects, Analytics)
- Track overdue invoices and bills
- Reconcile bank transactions
- Generate a monthly report in Excel

VBA Code Snippet

vb

```
Sub GenerateXeroMonthlySummary()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("XeroSummary")

    Dim lastRow As Long
    lastRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Subscription Summary
    ws.Cells(lastRow, 1).Value = "Plan Type"
    ws.Cells(lastRow, 2).Value = "Premium"
    ws.Cells(lastRow + 1, 1).Value = "Base Cost"
    ws.Cells(lastRow + 1, 2).Value = 995
    ws.Cells(lastRow + 2, 1).Value = "Expenses Add-on"
    ws.Cells(lastRow + 2, 2).Value = 69
    ws.Cells(lastRow + 3, 1).Value = "Projects Add-on"
    ws.Cells(lastRow + 3, 2).Value = 120.75
    ws.Cells(lastRow + 4, 1).Value = "Analytics Plus"
    ws.Cells(lastRow + 4, 2).Value = 120.75
```

```
    ws.Cells(lastRow + 5, 1).Value = "VAT"
    ws.Cells(lastRow + 5, 2).Value = 170.28
    ws.Cells(lastRow + 6, 1).Value = "Total Monthly Cost"
    ws.Cells(lastRow + 6, 2).Value = 1305.5

    ' Invoice Summary
    ws.Cells(lastRow + 8, 1).Value = "Invoices Awaiting Payment"
    ws.Cells(lastRow + 8, 2).Value = 9
    ws.Cells(lastRow + 9, 1).Value = "Overdue Invoices"
    ws.Cells(lastRow + 9, 2).Value = 5
    ws.Cells(lastRow + 10, 1).Value = "Total Invoice Value"
    ws.Cells(lastRow + 10, 2).Value = 9194.51

    ' Bills Summary
    ws.Cells(lastRow + 12, 1).Value = "Bills Awaiting Payment"
    ws.Cells(lastRow + 12, 2).Value = 13
    ws.Cells(lastRow + 13, 1).Value = "Overdue Bills"
    ws.Cells(lastRow + 13, 2).Value = 5
    ws.Cells(lastRow + 14, 1).Value = "Total Bills Value"
    ws.Cells(lastRow + 14, 2).Value = 8405.66

    ' Bank Reconciliation
    ws.Cells(lastRow + 16, 1).Value = "Bank Account"
    ws.Cells(lastRow + 16, 2).Value = "090-8007-006543"
    ws.Cells(lastRow + 17, 1).Value = "Statement Balance"
    ws.Cells(lastRow + 17, 2).Value = 1760.54
    ws.Cells(lastRow + 18, 1).Value = "Balance Difference"
    ws.Cells(lastRow + 18, 2).Value = 6555.1
    ws.Cells(lastRow + 19, 1).Value = "Items to Reconcile"
    ws.Cells(lastRow + 19, 2).Value = 27

    MsgBox "Monthly Xero summary generated successfully!", vbInformation,
"Xero Tracker"
End Sub
```

□ Excel Sheet: “XeroSummary”

Category	Value
Premium Plan	R995.00
Add-ons	R310.50
VAT	R170.28
Total Monthly Cost	R1,305.50
Invoices Awaiting Payment	9
Overdue Invoices	5
Bills Awaiting	13

Category	Value
Payment	
Overdue Bills	5
Bank Balance	R1,760.54
Reconciliation Items	27

Would you like this extended into a dashboard with charts, or linked to a UserForm for manual entry and export? I can also help modularize it for bilingual audit sheets or public service submission.

Thanks for sharing the context around Sci-Bono Discovery Centre. Based on its role as a leading science and career education hub, here's a **Visual Basic for Applications (VBA)** program concept that integrates the **Sci-Bono logo** into a **career advisory dashboard** or **booking form**—ideal for use in Excel or Access-based systems.

Visual Basic Program: Career Centre Booking Form with Sci-Bono Logo

Purpose

- Create a branded UserForm for career bookings or advisory intake
- Display Sci-Bono Discovery Centre logo
- Capture learner/visitor details and export to Excel

VBA Code Snippet (UserForm Setup)

vb

```
'--- In UserForm: frmCareerBooking ---
Private Sub UserForm_Initialize()
    ' Load Sci-Bono logo into Image control
    imgLogo.Picture = LoadPicture("C:\Images\SciBonoLogo.jpg") ' Update path
as needed

    ' Populate service type options
    cboServiceType.AddItem "Career Assessment"
    cboServiceType.AddItem "Counselling & Therapy"
    cboServiceType.AddItem "Psychometric Screening"
    cboServiceType.AddItem "Internship Program"
    cboServiceType.AddItem "STEM Workshop"
```

```
    cboServiceType.AddItem "Parenting Skills Session"
End Sub

Private Sub btnSubmit_Click()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("CareerBookings")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Write data to worksheet
    ws.Cells(nextRow, 1).Value = txtName.Value
    ws.Cells(nextRow, 2).Value = txtID.Value
    ws.Cells(nextRow, 3).Value = cboServiceType.Value
    ws.Cells(nextRow, 4).Value = txtContact.Value
    ws.Cells(nextRow, 5).Value = txtEmail.Value
    ws.Cells(nextRow, 6).Value = Date

    MsgBox "Booking submitted successfully!", vbInformation, "Sci-Bono Career
Centre"
    Unload Me
End Sub
```

🧩 UserForm Layout

Control	Purpose
`imgLogo`	Displays Sci-Bono logo
`txtName`	Learner or visitor name
`txtID`	ID or reference number
`cboServiceType`	Select service type (dropdown)
`txtContact`	Phone number
`txtEmail`	Email address
`btnSubmit`	Submit booking

📊 Excel Sheet: “CareerBookings”

Name	ID	Service Type	Contact	Email	Date

Would you like this extended with logigramme logic for service routing or algorigramme decision paths for referral and escalation? I can also help modularize it for bilingual export or HPCSA-aligned internship tracking.

Based on the Sci-Bono Career Centre's structure and services, here's a sample **Visual Basic for Applications (VBA)** code module that could be used to automate **booking requests** for career assessments, counselling, and internship programs. This UserForm-driven solution supports structured intake, email confirmation, and export to Excel for audit and reporting.

Visual Basic Code: Booking Form for Career Centre Services

Purpose

- Capture learner or parent details
- Select service type (e.g., Career Assessment, Counselling, Internship)
- Auto-generate confirmation message
- Export booking to Excel

VBA Code (UserForm + Module)

vb

```
'--- In UserForm: frmBookingForm ---
Private Sub btnSubmit_Click()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("Bookings")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Write data to worksheet
    ws.Cells(nextRow, 1).Value = txtName.Value
    ws.Cells(nextRow, 2).Value = txtID.Value
    ws.Cells(nextRow, 3).Value = cboGrade.Value
    ws.Cells(nextRow, 4).Value = cboServiceType.Value
    ws.Cells(nextRow, 5).Value = txtContact.Value
    ws.Cells(nextRow, 6).Value = txtEmail.Value
    ws.Cells(nextRow, 7).Value = Date

    ' Confirmation message
    MsgBox "Booking submitted successfully for " & txtName.Value & " (" &
cboServiceType.Value & ").", vbInformation, "Sci-Bono Career Centre"

    ' Clear form
    txtName.Value = ""
    txtID.Value = ""
    cboGrade.Value = ""
    cboServiceType.Value = ""
    txtContact.Value = ""
```

```
    txtEmail.Value = ""
End Sub
```

📊 Excel Sheet Structure ("Bookings")

A	B	C	D	E	F	G
Name	ID No.	Grade	Service Type	Contact #	Email	Date
Lerato M.	9901234	11	Career Assessment	0821234 56	lerato@...	2025-10-27

📋 Service Type Options (ComboBox: `cboServiceType`)

- Career Assessment
- Psycho-educational Assessment
- Counselling & Therapy
- Internship Program
- Parenting Workshop
- STEM Career Advisory

Would you like me to extend this with automated email confirmation, HPCSA milestone tracking, or export-ready dashboards for public service submission? I can also scaffold bilingual versions for audit and legacy preservation.

OLICY

Here’s a modular scope description tailored for integrating **Visual Basic code programming** into the **Sci-Bono Career Development and Counselling Services**, with emphasis on psychometrics, educational psychology, and career advisory workflows:

🧠 Scope Description: Visual Basic Code Programming for Career Development & Psychometric Services

Institution: Sci-Bono Discovery Centre – Career Development and Counselling Services **Focus Areas:** Psychometrics, Educational Psychology Internships, Career Advisory, STEM & 4IR Programmes

🎯 Objective

To automate, modularize, and streamline booking, assessment, reporting, and advisory workflows across Sci-Bono’s career development ecosystem using Visual Basic for Applications (VBA), UserForms, and macro-driven dashboards.

🧠 Technical Scope

1. Booking & Scheduling Automation

- **UserForm Interface** for:
  - Booking psychometric assessments and counselling sessions
  - Scheduling campus tours, industry visits, and STEM workshops
  - Registering learners for Grade 7–12 career presentations and expos
- **VBA Modules** to:
  - Validate input (e.g., learner ID, grade, session type)
  - Auto-generate confirmation emails and calendar entries
  - Export booking logs to Excel for audit and reporting

2. Assessment & Reporting Frameworks

- **Psychometric Score Sheets**:
  - VBA-powered templates for scoring anxiety, depression, substance abuse, and career interest inventories
  - Auto-calculation of risk levels and referral flags
- **Career Advisory Dashboards**:
  - Generate learner profiles based on subject choices, career interests, and STEM readiness
  - Link to downloadable resources (e.g., “My Journey of Self Discovery”, “Mindsets That Matter”)

3. Internship & Training Logs

- **Intern Psychologist Tracker**:
  - Log daily activities, supervision notes, and HPCSA milestones
  - Export structured reports for board exam preparation

- **Multi-disciplinary Training Matrix**:
    - Map training modules to HPCSA requirements
    - Visualize progress using macro-driven heatmaps

4. Event & Programme Management

- **Workshop Attendance Register**:
    - VBA form for capturing participant data and feedback
    - Auto-export to CAPS-aligned portfolio sheets
- **Career Day & Expo Planner**:
    - Schedule and assign facilitators, venues, and learner groups
    - Generate printable itineraries and resource packs

□ Outcomes

- Reduced manual workload for bookings, scoring, and reporting
- Enhanced audit readiness for HPCSA, CAPS, and internal governance
- Scalable logic for STEM, 4IR, and career readiness programmes
- Improved learner tracking and advisory personalization

Would you like a sample Visual Basic module for booking automation or psychometric scoring? I can also help you scaffold bilingual export templates for HPCSA, CAPS, or public service submission.

Here's a modular scope description tailored for integrating **Visual Basic programming**, **logigramme**, and **algorigramme** logic into the **Sci-Bono Career Centre's job opportunities and career development programs**:

□ Scope Description: Visual Basic, Logigramme & Algorigramme Logic for Career Development & HRD Roles

Context: Sci-Bono Career Centre – Gauteng, South Africa **Application:** Across HRD, Strategic Planning, Psychometrics, IT, SSIP, and Career Advisory roles

🎯 Objective

To embed logic-driven, automated, and modular frameworks into Sci-Bono's career development ecosystem—enhancing job opportunity tracking, psychometric workflows, HRD planning, and learner support through Visual Basic programming, logigramme process mapping, and algorigramme decision modeling.

🧩 Technical Scope

1. Visual Basic Programming

- Develop **UserForms** for:
    - Job application tracking (e.g., SSIP, HRD, IT, Tutors)
    - Internship scheduling and psychometric bookings
    - Career workshop registration and attendance logs
- Automate:
    - Candidate evaluation sheets
    - Psychometric scoring dashboards
    - Career advisory feedback forms
- Export credential-linked reports for HPCSA, CAPS, and internal HR audits.

2. Logigramme Logic (Process Mapping)

- Map workflows for:
    - Recruitment and onboarding (e.g., Senior Manager HRD, IT Manager, COO)
    - Career Centre services (walk-in, counselling, assessments)
    - Internship lifecycle (from booking to board exam prep)
- Visualize interdepartmental coordination across Strategic Planning, Communications, and Programme Officers.

3. Algorigramme Logic (Decision Trees)

- Model decision paths for:
  - Subject and career choice guidance (Grade 9–12)
  - Psychometric referral and escalation (e.g., trauma, learning disabilities)
  - Job readiness interventions and workshop placement
- Embed logic into Visual Basic modules for real-time advisory and learner profiling.

□ Role-Based Applications

Role	Logic Integration
Senior Manager: HRD	VBA dashboards for staff development, logigrammes for training cycles, algorigrammes for promotion paths
Psychometrist / Intern Psychologist	VBA scoring sheets, logigrammes for assessment flow, algorigrammes for referral decisions
SSIP Officers & Administrators	VBA for learner tracking, logigrammes for programme delivery, algorigrammes for support escalation
IT Manager	VBA for system audits, logigrammes for infrastructure workflows, algorigrammes for risk mitigation
Career Centre Facilitators	VBA for advisory logs, logigrammes for service routing, algorigrammes for learner decision support

□ Outcomes

- Streamlined job opportunity management and learner support
- Modular, bilingual export of career and credential data
- Enhanced audit readiness for HPCSA, CAPS, and internal governance
- Scalable frameworks for 4IR-aligned career development

Would you like this scoped into a credential-linked dashboard or formatted for public service submission and registry assurance? I can also help modularize it for bilingual export or integrate it into your existing UserForm and macro systems.

ere's a tailored scope description integrating **Visual Basic**, **logigramme**, and **algorigramme** logic into the role of an **Electronic Design Engineer** at De Lorenzo SPA:

□ Scope Description: Visual Basic, Logigramme & Algorigramme Integration

Role: Electronic Design Engineer **Location:** Rozzano (MI), Italy **Company:** De Lorenzo SPA – Global leader in educational equipment for technical and vocational training

□ Objective

To enhance the design, development, and lifecycle management of electronic and electromechanical educational systems by embedding modular logic frameworks—Visual Basic automation, logigramme process mapping, and algorigramme decision modeling—into project workflows, tender analysis, and after-sales support.

□ Technical Scope

1. Visual Basic for Applications (VBA) Integration

- Automate design documentation, prototype validation logs, and technical tender specifications.
- Develop UserForms for internal/external designer coordination, milestone tracking, and quality audits.
- Implement macro-driven dashboards for cost control, delivery timelines, and post-sales diagnostics.

2. Logigramme Logic (Process Mapping)

- Map end-to-end workflows for:
  - Tender analysis and specification breakdown
  - Internal design coordination and prototype iteration
  - Customer support escalation and resolution tracking
- Ensure traceability and modularity in project progress monitoring.

3. Algorigramme Logic (Decision Trees)

- Model decision paths for:
    - Component selection and circuit optimization
    - Compliance checks against tender requirements
    - Risk assessment and corrective action planning
- Embed decision logic into Visual Basic modules for real-time validation and reporting.

□ Cross-Functional Collaboration

- **Sales Department:** Support tender analysis with logic-driven breakdowns and automated compliance matrices.
- **Technical & Production Managers:** Co-develop specification documents using logigramme workflows and algorigramme decision paths.
- **Customer Support:** Coordinate post-sales activities with VBA-powered feedback forms and resolution trackers.

□ Outcomes

- Streamlined project lifecycle from requirement analysis to prototype validation.
- Enhanced auditability and modularity in technical documentation.
- Improved responsiveness to tender specifications and customer feedback.
- Scalable logic frameworks for future product lines and international deployments.

Would you like this formatted into a printable dashboard or bilingual export for credential alignment or public service submission?

Here's a tailored scope description integrating **Visual Basic**, **logigramme**, and **algorigramme** logic into the role of an **Electronic Design Engineer** at De Lorenzo SPA:

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Outcomes

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- Enhanced auditability and modularity in technical documentation.
- Improved responsiveness to tender specifications and customer feedback.
- Scalable logic frameworks for future product lines and international deployments.

VBA Code: Invoice Tracker with Monthly Summary

Code (Standard Module)

vb

```
Sub AddInvoiceRecord()
    Dim ws As Worksheet
    Set ws = ThisWorkbook.Sheets("Invoices")

    Dim nextRow As Long
    nextRow = ws.Cells(ws.Rows.Count, "A").End(xlUp).Row + 1

    ' Sample data entry
    ws.Cells(nextRow, 1).Value = "INV-" & Format(nextRow - 1, "0000")
```

```
    ws.Cells(nextRow, 2).Value = "Client Name"
    ws.Cells(nextRow, 3).Value = Date
    ws.Cells(nextRow, 4).Value = 995.0
    ws.Cells(nextRow, 5).Value = "Premium Plan"
    ws.Cells(nextRow, 6).Value = "Unpaid"

    MsgBox "Invoice record added successfully!", vbInformation, "Invoice
Tracker"
End Sub
```

📄 Excel Sheet: “Invoices”

Invoice #	Client Name	Date	Amount	Description	Status
INV-0001	Tshingombe	2025-10-27	995.00	Premium Plan	Unpaid

🧠 Optional Enhancements

- Add a **UserForm** for manual entry
- Include dropdowns for status ("Paid", "Unpaid", "Overdue")
- Auto-calculate VAT and total
- Export monthly summaries to a dashboard

Would you like me to scaffold a full UserForm

Here is a modular Visual Basic scope with logigramme and algorigramme logic for the DL WTS-CTRL750 wind turbine control module. It supports manual and Modbus-based remote control, SCADA integration, and multilingual export.

🧠 Scope: Visual Basic Code + Logigramme + Algorigramme

System: DL WTS-CTRL750 – Wind Turbine Control Module **Language:** English (translated from Italian) **Application:** Renewable energy labs, SCADA integration, Modbus RTU control, educational automation

🎯 Objective

To automate and visualize the control logic of the DL WTS-CTRL750 using:

- **Visual Basic for Applications (VBA)** for interface and data handling
- **Logigramme** for process flow (manual/remote control, alarm reset, SCADA sync)

- **Algorigramme** for decision logic (speed/torque thresholds, emergency handling)

🖥 Visual Basic Code Snippet (Control Panel Interface)

```
Private Sub btnStart_Click()
    If chkEnable.Value = True And chkZeroSpeed.Value = False Then
        lblStatus.Caption = "System Ready"
        If optManual.Value = True Then
            txtSpeed.Value = sldSpeed.Value
            txtTorque.Value = sldTorque.Value
        ElseIf optRemote.Value = True Then
            Call ReadModbusInputs
        End If
    Else
        lblStatus.Caption = "Check Enable or Zero Speed Lock"
    End If
End Sub

Private Sub btnResetAlarm_Click()
    lblAlarm.Caption = "No Alarm"
    lblStatus.BackColor = vbGreen
End Sub

Sub ReadModbusInputs()
    ' Placeholder for RS485 Modbus RTU read logic
    txtSpeed.Value = 1200 ' Simulated value
    txtTorque.Value = 80
End Sub
```

🔄 Logigramme (Process Flow)

Start → Check Enable Switch → Check Zero Speed Lock → Choose Control Mode →

- If Manual → Read Potentiometers → Set Speed/Torque
- If Remote → Read RS485 Modbus Inputs → Display Parameters → Monitor Alarms → End

🌳 Algorigramme (Decision Tree)

1. **Is Emergency Button Pressed?** → Yes → Trigger Alarm, Stop Motor → No → Continue
2. **Is Speed > Max Threshold?** → Yes → Activate Speed Limiter → No → Continue

3. **Is Torque > Max Threshold?** → Yes → Activate Torque Limiter → No → Continue

4. **Is Setpoint Reached?** → Yes → Light Indicator → No → Adjust Output

□ System Integration Points

- **RS485 Modbus RTU**: Remote control and SCADA sync
- **USB Port**: Anemometer data input
- **Digital Meter**: Real-time display of wind, mechanical, and turbine parameters
- **SCADA3+**: Visualize and control via networked devices

Here's a modular scope description for integrating **Visual Basic programming**, **logigramme**, and **algorigramme** logic into the **DL NEXT GENERATION LAB** ecosystem by De Lorenzo, with a focus on smart grid, renewable energy, and Industry 4.0 modules:

□ Scope: Visual Basic Programming + Logigramme + Algorigramme

Platform: DL NEXT GENERATION LAB – De Lorenzo Didactical Systems
Domains: Smart Grid, Wind & Solar Power, IoT, AI, Cybersecurity, Big Data, Cloud, Robotics, Greenhouse, Blockchain

□ Objective

To automate, visualize, and modularize control, monitoring, and learning workflows across DL's didactic modules using:

- **Visual Basic for Applications (VBA)** for interface, simulation, and data logging
- **Logigramme** for process mapping (e.g., sensor activation, control loops, SCADA sync)
- **Algorigramme** for decision modeling (e.g., fault detection, energy optimization, AI inference)

□ Visual Basic Code Applications

1. Smart Grid & Renewable Energy
vb

```
ub MonitorWindTurbine()
    If chkEnable.Value = True Then
        txtWindSpeed.Value = GetSensorValue("Anemometer")
        txtTorque.Value = GetSensorValue("TorqueSensor")
        If txtWindSpeed.Value > 25 Then
            lblStatus.Caption = "High Wind – Activate Brake"
        Else
            lblStatus.Caption = "Normal Operation"
        End If
    End If
End Sub
```

2. IoT & Cloud Modules

```
Sub SyncToCloud()
    Dim dataPacket As String
    dataPacket = txtSensor1.Value & "," & txtSensor2.Value & "," & Now
    Call UploadToCloud(dataPacket)
    MsgBox "Data synced to DL Cloud successfully", vbInformation
End Sub
```

3. AI & Big Data Modules

```
Sub PredictEnergyDemand()
    Dim inputData As Double
    inputData = txtCurrentLoad.Value
    txtPrediction.Value = inputData * 1.15 ' Simple ML placeholder
End Sub
```

Logigramme Logic (Process Flow)

Start → Sensor Activation → Data Acquisition → Control Decision → Actuator Response → Logging → Cloud Sync → End

Modules:

- DL NGL-IOT: Sensor → Microcontroller → Cloud
- DL NGL-CYBER: User Auth → Firewall → Access Grant
- DL NGL-GREENSTEM: Soil Sensor → Irrigation → Feedback Loop

Algorigramme Logic (Decision Trees)

1. **Is Wind Speed > Threshold?** → Yes → Activate Brake → No → Continue
2. **Is AI Prediction > Load Capacity?** → Yes → Alert Operator → No → Log and Continue
3. **Is Network Secure?** → No → Block Access → Yes → Proceed to Cloud Sync

🔗 Outputs & Integration

- **SCADA3+**: Real-time visualization across modules
- **RS485/USB**: Hardware interface for sensors and actuators
- **DL Workspace**: Centralized dashboard for student and teacher stations
- **Multilingual Export**: English, Italian, French, Spanish for global deployment

Would you like a printable logigramme/algorigramme diagram for one of the modules (e.g., DL NGL-GREENSTEM or DL NGL-AI)? I can also scaffold a full VBA workbook for simulation, training, or registry assurance.

Here is a modular scope description for integrating **Visual Basic programming**, **logigramme**, and **algorigramme** logic into the **DL NGL-ROBSIM** module for the study of a 5-axis robotic arm, aligned with SCADA, Industry 4.0, and educational automation objectives.

🧠 Scope: Visual Basic Code + Logigramme + Algorigramme

Module: DL NGL-ROBSIM – 5-Axis Robotic Arm Simulator **Platform:** DL NEXT GENERATION LAB **Domains:** Robotics, Automation, SCADA, Industry 4.0, Microcontroller Programming

🎯 Objective

To enable programmable, visual, and logic-driven control of a 5-axis robotic arm using:

- **Visual Basic for Applications (VBA)** for simulation interface, data logging, and SCADA integration
- **Logigramme** for process flow mapping (e.g., joystick input → servo control → position feedback)
- **Algorigramme** for decision logic (e.g., axis limit checks, Bluetooth pairing, Cartesian positioning)

🧩 Visual Basic Code Snippet (Servo Control via Joystick)

vb

```
Private Sub btnMoveArm_Click()
    Dim axis As Integer
    Dim angle As Double

    For axis = 1 To 5
        angle = Val(Me.Controls("txtAxis" & axis).Value)
        If angle >= 0 And angle <= 180 Then
            Call SendToMicrocontroller(axis, angle)
        Else
            MsgBox "Axis " & axis & " angle out of range (0–180°)",
vbExclamation
        End If
    Next axis

    lblStatus.Caption = "Movement command sent to robotic arm."
End Sub

Sub SendToMicrocontroller(axis As Integer, angle As Double)
    ' Placeholder for serial communication logic
    Debug.Print "Axis " & axis & " set to " & angle & " degrees"
End Sub
```

□ Logigramme Logic (Process Flow)

Start → Power On → Bluetooth Pairing → Joystick Input → Axis Selection → Angle Validation → Servo Activation → LCD Feedback → End

- **Inputs:** Joystick, Bluetooth, Flex Sensor, Ultrasonic Sensor
- **Processes:** Signal acquisition → Axis mapping → Servo PWM control
- **Outputs:** Servo movement, LCD display, SCADA sync

□ Algorigramme Logic (Decision Tree)

1. **Is Bluetooth Connected?** → No → Prompt for pairing → Yes → Proceed
2. **Is Axis Angle Within Range (0–180°)?** → No → Display error → Yes → Send PWM signal
3. **Is Obstacle Detected (Ultrasonic Sensor)?** → Yes → Halt movement, trigger alert → No → Continue
4. **Is Position Reached?** → Yes → Log to SCADA → No → Adjust and retry

□ Educational Integration

Component	Visual Basic Role	Logigramme Role	Algorigramme Role
Joystick Sub-board	Read analog input	Map to axis selection	Validate input range
Servo Motor Sub-board	Send PWM signals	Activate movement	Check torque/speed limits
LCD Display Sub-board	Show axis position	Display feedback	Confirm movement completion
Bluetooth Sub-board	Pairing and data transmission	Initiate communication	Retry on failure
SCADA Interface	Log data, visualize movement	Sync with gateway	Alert on fault or misalignment

Outputs & Integration

- **Real-time control** of robotic arm via VBA interface
- **SCADA software** for monitoring, logging, and remote diagnostics
- **Modular compatibility** with other DL NGL kits (e.g., DL NGL-I4.0 FACTORY, DL NGL-CLOUD)
- **Multilingual export** for training, audit, and public service submission

Would you like a printable logigramme/algorigramme diagram or a full VBA workbook with SCADA simulation hooks and Bluetooth pairing logic? I can also scaffold a bilingual training module aligned with HPCSA or public service credentialing.

Today

Copilot said

Here's a complete modular response for your SQA Work Experience tasks, including Visual Basic logic, logigramme/algorigramme structure, and reflective content.

Section 1: Personal Details

- **Name:** Tshingombe Tshitadi Fiston
- **School:** China Criminal Police College, Gauteng

Section 2: Responsible Business Task

✍ Step 1: Promotional Article

Title: “Love the Outdoors? Dig into Something Meaningful!” **Slogan:** “Grow Together, Give Back!” **Article:** Join us at the *Glasgow Hidden Gardens* for a vibrant volunteering opportunity! This spring, we’re creating a new plant bed for the vegetable patch—and we need YOU. We’re looking for 12 enthusiastic staff members to help shape the garden and connect with the community. Whether you're a green thumb or just love fresh air, this is your chance to make a difference. Sign up via our internal newsletter and let’s grow something great together!

⚠ Step 2: Risk Assessment

Risk	SQA Action
Uneven terrain	Staff to wear sturdy footwear and be briefed on safe movement
Allergies to plants/insects	Collect allergy info beforehand; provide antihistamines
Sun exposure	Encourage sunscreen, hats, and hydration
Manual lifting of soil/tools	Provide lifting technique training and gloves
Slippery surfaces after rain	Use signage and restrict access to wet areas

Step 3: Briefing Document

- **Slogan:** “Let’s Grow Something Great!”
- **Title:** Community Garden Volunteering Day
- **Activity:** Creating a new plant bed for spring vegetables
- **Place:** Glasgow Hidden Gardens, 25A Albert Drive, Glasgow G41 2PE
- **Date & Time:** Saturday, 15 March 2026, 09:00–15:00
- **Jobs:** Digging, planting, soil preparation, layout design
- **Clothing:** Garden gloves, boots/trainers, sun hat, comfortable clothes
- **Lunch:** Yes, picnic lunch provided
- **Fun Statement:** “From soil to smiles—let’s make it bloom!”

Section 3: Reflective Diary

1. **Why is responsible business important?** It ensures staff wellbeing, builds community trust, and protects the environment—creating sustainable impact.
2. **School responsibility example:** Our school runs a recycling and energy-saving campaign, encouraging students to reduce waste and conserve power.

3. **Other thoughts:** Responsible business isn’t just policy—it’s culture. It empowers people to act with purpose and pride.

Facilities Task

Health & Safety Incidents

Incident	Relevant H&S Point
Kirsty’s paper cut	5. First aid facilities
Joe’s stress leave	4. Training and supervision
Mark’s unsafe climbing	2. Safe equipment
Emma’s trip	1. Safe environment
Sophie fainting	6. Welfare facilities
Chris’s electric shock	2. Safe systems of work
Fiona’s back injury	4. Training and supervision

Health & Safety Statistics (2020/2021)

Statement	Statistic
Work-related ill health	1.7 million
Mesothelioma deaths	2,369
Musculoskeletal disorders	470,000
Workers killed	142
Injuries (Labour Force Survey)	441,000
RIDDOR injuries	51,211
COVID-19 work-related cases	93,000

Facilities Reflective Diary

1. **Time taken:** 1 hour
2. **New info learned:** Importance of proactive safety planning and staff consultation
3. **Most interesting:** Real-world application of risk management

4. **Preferred facilities work:** Safety auditing and compliance documentation

Marketing Task

Customer Persona

- **Name:** “Zanele the Achiever”
- **Age:** 17
- **School:** Parktown Girls’ High School
- **Goals:** Study engineering, earn a bursary, work in renewable energy
- **Challenges:** Financial constraints, limited mentorship
- **Social Media:** Instagram, TikTok
- **Hobbies:** Robotics, hiking, DIY crafts

TikTok Marketing Idea

Campaign: “SQA Sparks” **Concept:** Short videos featuring real learners like Zanele sharing their goals, study tips, and SQA success stories. Use hashtags like #SQASparks #FutureReady. Include behind-the-scenes of exam prep, fun challenges, and Q&A with SQA staff.

Marketing Reflective Diary

1. **Marketing definition:** Connecting people with opportunities through creative communication
2. **Insight from task:** Yes, it showed how personas guide strategy
3. **Interest in SQA marketing:** Yes—would love contact info for deeper engagement
4. **Other thoughts:** TikTok can humanize SQA and build learner trust

IT Business Analyst Task

- **Name:** Tshingombe Tshitadi Fiston
- **School:** China Criminal Police College, Gauteng

Let me know if you'd like this structured into a printable dashboard or exported into a credential-linked framework.

GOV.UK

Health and Safety statistics: 2020 to 2021 annual release

.

Copilot said

Here’s a complete response for your SQA Work Experience tasks in Business Analysis and Marketing, tailored to your curriculum and modular documentation goals.

□ IT Business Analyst Task

Section 1: Personal Details

- **Name:** Tshingombe Tshitadi Fiston
- **School:** China Criminal Police College, Gauteng

Section 2: Business Analysis Case Study

1. **What does a Business Analyst do?** A Business Analyst uses data and stakeholder input to identify business needs, define requirements, and recommend solutions that improve processes, systems, and outcomes

1. .
2. **How can they help Helter Skelter Theme Parks?**
    - *Market Expansion:* Analyze feasibility of entering Europe and America
    - *Stakeholder Mapping:* Identify and manage internal and external interests
    - *Gap Analysis:* Highlight missing resources, skills, or infrastructure
    - *Website Requirements:* Define user needs and functional specs for digital platforms
3. **Most interesting task:** I’d enjoy conducting the **gap analysis**—it’s strategic, diagnostic, and aligns with my modular audit and credential mapping expertise.

Section 3: Stakeholders

1. **Typical stakeholders:**
    - Owners (Fun-Fair family)
    - Staff (full-time, part-time, seasonal)
    - Customers
    - Local councils and regulators

    - Suppliers and contractors
    - Hotel partners
    - Investors
    - IT and marketing teams
    - Community groups
2. **Stakeholder thoughts on expansion:**
    - *Staff:* Excited but anxious about relocation or job changes
    - *Customers:* Curious about new experiences abroad
    - *Local councils:* Concerned about zoning, tourism impact
    - *Investors:* Focused on ROI and brand reputation
3. **Why stakeholders matter:** They influence project success, funding, adoption, and public perception. A Business Analyst ensures their needs are considered early.
4. **Unhappy stakeholders?** Possibly local UK communities fearing reduced investment or staff worried about job security.

Section 4: Gaps

Area	Gap Example
People	Need multilingual staff for international parks
Buildings	Hotels and park infrastructure in new regions
Locations	Land acquisition in Europe and America
Money	Capital for construction, marketing, staffing
Equipment	Ride machinery, safety gear, hotel furnishings
Skills	Language, cultural training, international logistics
Knowledge	Legal, tax, and tourism regulations abroad
Technology	Booking systems, multilingual websites
Processes	International HR, compliance, customer service
Information	Market research, competitor analysis

Section 5: Website Design Factors

- **User Experience (UX):** Easy navigation, mobile-friendly
- **Accessibility:** Multilingual support, readable fonts

- **Visual Appeal:** High-quality images, consistent branding
- **Functionality:** Booking system, park info, hotel packages
- **Security:** GDPR compliance, secure payment gateways
- **Performance:** Fast loading, responsive design
- **Feedback:** Contact forms, reviews, FAQs

Section 6: Reflective Diary

1. **Would I want a career as a Business Analyst?** Yes—because it blends strategy, stakeholder engagement, and modular thinking, which aligns with my credential and audit frameworks.
2. **Will I use this in school?** Absolutely. I'll apply stakeholder mapping and gap analysis to curriculum design and public service documentation.
3. **Other thoughts:** Business Analysis is a powerful tool for reform, legacy preservation, and cross-border innovation. It's ideal for modular, bilingual, and credential-linked systems.

Marketing Task

Section 1: Personal Details

- **Name:** Tshingombe Tshitadi Fiston
- **School:** China Criminal Police College, Gauteng

Section 2: Customer Persona

- **Name:** "Lebo the Visionary"
- **Age:** 16
- **School:** Pretoria High School for Girls
- **Goals:** Study AI and robotics, earn a scholarship, launch a tech startup
- **Challenges:** Limited access to mentors, financial barriers
- **Social Media:** Instagram, TikTok
- **Hobbies:** Coding, anime, gaming, science fairs

Section 3: TikTok Marketing Idea

Campaign Name: "SQA Level Up" **Concept:**

- Short videos featuring learners like Lebo sharing study hacks, career dreams, and SQA tips
- Use filters, duets, and challenges like #MySQAGoal
- Include behind-the-scenes of exam prep and fun quizzes
- Link to MySQA and YouTube for deeper content

Reflective Diary

1. **What is marketing to me?** It’s storytelling with purpose—connecting people to opportunities through creative, inclusive messaging.
2. **Did the task help?** Yes—it showed how personas shape strategy and how platforms like TikTok can amplify learner voices.
3. **Want to learn more?** Definitely. I’d love general info and a contact email to explore cross-platform marketing and credential outreach.
4. **Other thoughts:** Marketing is essential for equity and engagement. It can democratize access to education and certification.

Let me know if you'd like this formatted into a bilingual dashboard, exported for credential linkage, or integrated into your modular audit sheets.

Copilot said

Here’s a Visual Basic (VBA) code module that aligns with the SQA Work Experience – Responsible Business Task. It automates the collection of personal details, generates a promotional article, logs risk assessments, and prepares a printable briefing document using a UserForm and structured logic. This can be embedded in Excel or Word for audit-ready export.

□ Visual Basic Code: Responsible Business Task Automation

vb

```
' Module: SQA_ResponsibleBusiness
' Purpose: Automate data entry, article generation, and risk assessment for
SQA volunteering task

Option Explicit

' Global variables
Dim staffCount As Integer
Dim risks(1 To 5) As String
Dim actions(1 To 5) As String

Sub LaunchSQAForm()
    SQAForm.Show
End Sub

Sub GenerateArticle()
    Dim article As String
    article = "□ Do You Love the Outdoors?" & vbCrLf & vbCrLf & _
```

```
              "Join us at Glasgow Hidden Gardens this spring to help create a
vibrant new vegetable patch!" & vbCrLf & _
              "We need 12 enthusiastic staff members to dig, plant, and grow
something amazing together." & vbCrLf & _
              "Sign up now via our internal newsletter. Let’s grow together!"
& vbCrLf & vbCrLf & _
              "Slogan: Grow Together, Give Back!"
    MsgBox article, vbInformation, "Promotional Article"
End Sub

Sub LogRiskAssessment()
    Dim i As Integer
    risks(1) = "Uneven terrain"
    actions(1) = "Wear sturdy boots and brief staff on safe movement"

    risks(2) = "Allergies to plants/insects"
    actions(2) = "Collect allergy info and provide antihistamines"

    risks(3) = "Sun exposure"
    actions(3) = "Provide sunscreen and hydration breaks"

    risks(4) = "Manual lifting"
    actions(4) = "Train staff on safe lifting and provide gloves"

    risks(5) = "Slippery surfaces"
    actions(5) = "Use caution signs and restrict access to wet areas"

    Dim output As String
    output = "□ Risk Assessment Summary:" & vbCrLf
    For i = 1 To 5
        output = output & vbCrLf & "Risk: " & risks(i) & vbCrLf & "Action: "
& actions(i) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Risk Assessment"
End Sub

Sub CreateBriefing()
    Dim briefing As String
    briefing = "□ SQA Volunteering Briefing Document" & vbCrLf & vbCrLf & _
               "Slogan: Grow Together, Give Back!" & vbCrLf & _
               "Title: Community Garden Volunteering Day" & vbCrLf & _
               "Activity: Creating a new plant bed for spring vegetables" &
vbCrLf & _
               "Place: Glasgow Hidden Gardens, 25A Albert Drive, Glasgow G41
2PE" & vbCrLf & _
               "Date: Saturday, 15 March 2026 | Time: 09:00–15:00" & vbCrLf &
_
               "Jobs: Digging, planting, soil prep, layout design" & vbCrLf &
_
               "Clothing: Gloves, boots/trainers, sun hat, comfy clothes" &
vbCrLf & _
               "Lunch: Yes, picnic lunch provided" & vbCrLf & _
               "End Note: From soil to smiles—let’s make it bloom!"
    MsgBox briefing, vbInformation, "Briefing Document"
End Sub
```

□ Optional: UserForm Design (SQAForm)

Control Type	Name	Caption/Label
Label	lblName	What is your name?
TextBox	txtName	
Label	lblSchool	What school do you attend?
TextBox	txtSchool	
CommandButton	btnArticle	Generate Article
CommandButton	btnRisk	Log Risk Assessment
CommandButton	btnBriefing	Create Briefing Document
CommandButton	btnClose	Close

Would you like me to help you export this into a bilingual, credential-linked dashboard or integrate it with your audit sheets and digital certificate inspection logic?

ss area.

Copilot said

Here’s a complete Visual Basic (VBA) code module to support the SQA Work Experience – IT Business Analyst Task. It automates stakeholder mapping, gap analysis, and webpage design planning for Helter Skelter Theme Parks.

□ Visual Basic Code: IT Business Analyst Task Automation

vb

```
' Module: SQA_ITBusinessAnalyst
' Purpose: Automate stakeholder mapping, gap analysis, and webpage planning
for Helter Skelter Theme Parks

Option Explicit

' Global arrays
Dim stakeholders() As String
```

```
Dim gaps() As String
Dim webpageFactors() As String

Sub LaunchBusinessAnalystForm()
    BusinessAnalystForm.Show
End Sub

Sub DefineStakeholders()
    stakeholders = Split("Fun-Fair family, Staff, Mechanics, Customers, Local
Councils, Hotel Partners, Investors, IT Team, Marketing Team, Suppliers", ",
")
    Dim i As Integer, output As String
    output = "□ Stakeholders Identified:" & vbCrLf
    For i = LBound(stakeholders) To UBound(stakeholders)
        output = output & "- " & stakeholders(i) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Stakeholder List"
End Sub

Sub PerformGapAnalysis()
    gaps = Split("Staffing, Buildings, Land Acquisition, Funding, Ride
Equipment, Multilingual Skills, Legal Knowledge, Booking Technology, HR
Processes, Market Research", ", ")
    Dim i As Integer, output As String
    output = "□ Gap Analysis Summary:" & vbCrLf
    For i = LBound(gaps) To UBound(gaps)
        output = output & "- " & gaps(i) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Gap Analysis"
End Sub

Sub PlanWebpageDesign()
    webpageFactors = Split("User Experience, Accessibility, Visual Appeal,
Booking Functionality, Security, Performance, Feedback Channels", ", ")
    Dim i As Integer, output As String
    output = "□ Webpage Design Priorities:" & vbCrLf
    For i = LBound(webpageFactors) To UBound(webpageFactors)
        output = output & "- " & webpageFactors(i) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Webpage Design Factors"
End Sub

Sub ReflectiveDiary()
    Dim diary As String
    diary = "□ Reflective Diary:" & vbCrLf & vbCrLf & _
            "1. Would I want a career as a Business Analyst?" & vbCrLf & _
            "Yes – because it blends strategy, stakeholder engagement, and
modular thinking." & vbCrLf & vbCrLf & _
            "2. Will I use this in school?" & vbCrLf & _
            "Absolutely – especially for curriculum design and audit
documentation." & vbCrLf & vbCrLf & _
            "3. Other thoughts:" & vbCrLf & _
            "Business Analysis is ideal for reform, legacy preservation, and
cross-border innovation."
    MsgBox diary, vbInformation, "Reflective Diary"
```

```
End Sub
```

□ Optional: UserForm Design (BusinessAnalystForm)

Control Type	Name	Caption/Label
Label	lblName	What is your name?
TextBox	txtName	
Label	lblSchool	What school do you attend?
TextBox	txtSchool	
CommandButton	btnStakeholders	Define Stakeholders
CommandButton	btnGaps	Perform Gap Analysis
CommandButton	btnWebpage	Plan Webpage Design
CommandButton	btnDiary	Reflective Diary
CommandButton	btnClose	Close

Would you like this integrated with your credential-linked dashboards, exported for bilingual audit sheets, or extended with logigramme logic for stakeholder workflows?

You said

scope visual basic code My courses Main content blocks Skip Course overview Course overview Search courses Delivering and Marking SQA Advanced Qualification Graded Units Course name Delivering and Marking SQA Advanced Qualification Graded Units Course category International Course progress: 100% complete Developing a Coaching mind-set Course name Developing a Coaching mind-set Course category Develop your team Course progress: 0% complete Personal Finance Award SCQF Level 6 Course name Personal Finance Award SCQF Level 6 Course category Open courses - available to everyone Virtual Work Experience Course name Virtual Work Experience Course category Work Experience Course progress: 0% complete Skip to main content Academy Home Dashboard My courses Course categories Get help Contact form Academy Collapse Welcome Developing Vocational Assessments Selecting Valid Assessment Methods for Vocational Qualifications Developing Multiple Choice

Assessments for HN/VQ Feedback Assessment Development Fundamentals for Vocational Qualifications Course Competencies More You are enrolled in the course. Section outline Welcome to Assessment Development Fundamentals for Vocational Qualifications, fiston Please select one of the modules below to get started. Developing Vocational Assessments SCORM package Selecting Valid Assessment Methods for Vocational Qualifications SCORM package Developing Multiple Choice Assessments for HN/VQ SCORM package Feedback URL

Copilot said

Thanks for sharing your course structure and progress. Based on your SQA Academy modules and your focus on Visual Basic automation, here's a scoped Visual Basic (VBA) code module that aligns with your learning path and supports modular tracking of course progress, assessment development, and reflective logging.

□ Visual Basic Code: SQA Course Tracker & Assessment Logger

vb

```
' Module: SQA_CourseTracker
' Purpose: Track course progress, log assessment reflections, and support
modular credential mapping

Option Explicit

' Course structure arrays
Dim courseNames() As String
Dim courseCategories() As String
Dim courseProgress() As Integer

Sub InitializeCourses()
    courseNames = Split("Delivering and Marking SQA Advanced Qualification
Graded Units,Developing a Coaching mind-set,Personal Finance Award SCQF Level
6,Virtual Work Experience", ",")
    courseCategories = Split("International,Develop your team,Open courses -
available to everyone,Work Experience", ",")
    courseProgress = Array(100, 0, 0, 0)
End Sub

Sub DisplayCourseOverview()
    Dim i As Integer, output As String
    output = "□ SQA Course Overview:" & vbCrLf
    For i = LBound(courseNames) To UBound(courseNames)
        output = output & vbCrLf & "Course: " & courseNames(i) & vbCrLf & _
                 "Category: " & courseCategories(i) & vbCrLf & _
                 "Progress: " & courseProgress(i) & "% complete" & vbCrLf
    Next i
```

```
    MsgBox output, vbInformation, "Course Tracker"
End Sub

Sub LogAssessmentReflection(courseTitle As String, reflectionText As String)
    Dim logEntry As String
    logEntry = "□ Assessment Reflection Log" & vbCrLf & _
               "Course: " & courseTitle & vbCrLf & _
               "Reflection: " & reflectionText & vbCrLf & _
               "Logged on: " & Format(Now, "dd-mmm-yyyy hh:mm:ss")
    MsgBox logEntry, vbInformation, "Reflection Logged"
End Sub

Sub GenerateModuleChecklist()
    Dim checklist As String
    checklist = "□ Module Checklist:" & vbCrLf & _
                "- Developing Vocational Assessments" & vbCrLf & _
                "- Selecting Valid Assessment Methods for Vocational
Qualifications" & vbCrLf & _
                "- Developing Multiple Choice Assessments for HN/VQ"
    MsgBox checklist, vbInformation, "Assessment Development Modules"
End Sub
```

□ Optional: UserForm Design (CourseTrackerForm)

Control Type	Name	Caption/Label
Label	lblCourse	Select Course
ComboBox	cmbCourse	(Populated with courseNames)
Label	lblReflection	Enter Reflection
TextBox	txtReflection	
CommandButton	btnLog	Log Reflection
CommandButton	btnOverview	Show Course Overview
CommandButton	btnChecklist	Show Module Checklist
CommandButton	btnClose	Close

This module supports:

- Modular tracking of course progress
- Logging reflections for audit and credential mapping

- Checklist generation for SCORM-based assessment modules

Would you like this extended to include export logic, credential-linked dashboards, or bilingual audit-ready templates?

Copilot said

Thanks for sharing the full scope of the 2025 AH Engineering Science paper. Based on your modular documentation goals and your interest in logigramme logic and Visual Basic automation, here's a scoped Visual Basic code module that supports:

- □ Activity network logic for Question 1(a)
- □ Logigramme-style tracking of project phases
- □ Float and critical path calculation
- □ Modular export for audit or credential linkage

□ Visual Basic Code: Engineering Science Logigramme & Project Tracker

vb

```
' Module: AH_EngineeringScience2025
' Purpose: Automate activity network logic, float calculation, and logigramme
tracking for Question 1(a)

Option Explicit

' Define project phases and durations
Type Phase
    Name As String
    Precedents As String
    Duration As Integer
    EarliestStart As Integer
    EarliestFinish As Integer
    LatestStart As Integer
    LatestFinish As Integer
    Float As Integer
End Type

Dim phases(1 To 9) As Phase

Sub InitializePhases()
    phases(1).Name = "A": phases(1).Precedents = "": phases(1).Duration = 4
    phases(2).Name = "B": phases(2).Precedents = "A": phases(2).Duration = 4
    phases(3).Name = "C": phases(3).Precedents = "A": phases(3).Duration = 8
    phases(4).Name = "D": phases(4).Precedents = "B,C": phases(4).Duration =
2
    phases(5).Name = "E": phases(5).Precedents = "B,C": phases(5).Duration =
9
```

```
    phases(6).Name = "F": phases(6).Precedents = "D,E": phases(6).Duration =
7
    phases(7).Name = "G": phases(7).Precedents = "E": phases(7).Duration = 5
    phases(8).Name = "H": phases(8).Precedents = "G": phases(8).Duration = 3
    phases(9).Name = "I": phases(9).Precedents = "F,H": phases(9).Duration =
1
End Sub

Sub CalculateEarliestTimes()
    Dim i As Integer
    For i = 1 To 9
        If phases(i).Precedents = "" Then
            phases(i).EarliestStart = 0
        Else
            Dim preds() As String
            preds = Split(phases(i).Precedents, ",")
            Dim maxEF As Integer: maxEF = 0
            Dim j As Integer
            For j = LBound(preds) To UBound(preds)
                Dim k As Integer
                For k = 1 To 9
                    If phases(k).Name = preds(j) Then
                        If phases(k).EarliestFinish > maxEF Then
                            maxEF = phases(k).EarliestFinish
                        End If
                    End If
                Next k
            Next j
            phases(i).EarliestStart = maxEF
        End If
        phases(i).EarliestFinish = phases(i).EarliestStart +
phases(i).Duration
    Next i
End Sub

Sub CalculateLatestTimes()
    Dim projectDuration As Integer
    projectDuration = phases(9).EarliestFinish
    Dim i As Integer
    For i = 9 To 1 Step -1
        If i = 9 Then
            phases(i).LatestFinish = projectDuration
        Else
            Dim successors() As String
            successors = GetSuccessors(phases(i).Name)
            Dim minLS As Integer: minLS = projectDuration
            Dim j As Integer
            For j = LBound(successors) To UBound(successors)
                Dim k As Integer
                For k = 1 To 9
                    If phases(k).Name = successors(j) Then
                        If phases(k).LatestStart < minLS Then
                            minLS = phases(k).LatestStart
                        End If
                    End If
```

```
                Next k
            Next j
            phases(i).LatestFinish = minLS
        End If
        phases(i).LatestStart = phases(i).LatestFinish - phases(i).Duration
        phases(i).Float = phases(i).LatestStart - phases(i).EarliestStart
    Next i
End Sub

Function GetSuccessors(phaseName As String) As String()
    Dim successors() As String
    Dim count As Integer: count = 0
    Dim i As Integer
    For i = 1 To 9
        If InStr(phases(i).Precedents, phaseName) > 0 Then
            ReDim Preserve successors(count)
            successors(count) = phases(i).Name
            count = count + 1
        End If
    Next i
    GetSuccessors = successors
End Function

Sub DisplayCriticalPath()
    Dim output As String: output = "□ Critical Path:" & vbCrLf
    Dim i As Integer
    For i = 1 To 9
        If phases(i).Float = 0 Then
            output = output & "- " & phases(i).Name & vbCrLf
        End If
    Next i
    MsgBox output, vbInformation, "Critical Path"
End Sub
```

□ What This Module Supports

- **Activity Network Logic:** Precedent-based scheduling
- **Logigramme Mapping:** Float and critical path identification
- **Audit-Ready Export:** Modular structure for credential linkage
- **Visual Basic Integration:** Can be embedded in Excel or Word for engineering dashboards

Would you like this extended to include graphical output, bilingual export, or integration with your credential-linked record books and public service dashboards?

Copilot said

Here’s a scoped overview and modular description of the 2025 Advanced Higher Engineering Science exam (Paper X823/77/11), tailored for audit-ready documentation, logigramme mapping, and credential-linked analysis.

□ Overview: AH Engineering Science 2025

Exam Code	**X823/77/11**
Level	Advanced Higher
Subject	Engineering Science
Date	Friday, 16 May 2025
Time	1:00 PM – 3:30 PM
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)
Resources	Data Booklet allowed
Format	Answer booklet + worksheets for selected questions

□ Scoped Description by Section

□ Section 1 — 35 Marks (Attempt ALL)

Q #	Topic	Key Skills
1	Project Management	Activity network diagram, float, critical path, planning steps
2	Structural Analysis	Shear force diagram for beam with UDL and point loads
3	Energy Systems	CHP efficiency calculation (electrical vs thermal)
4	Electrical Supply	Component identification, busbar and circuit breaker functions
5	DAC Circuit	Amplifier role, binary input combinations, resistor calculations
6	Wien Oscillator	Frequency tolerance, R1 value for stable output, waveform diagnosis
7	Structural Deflection	UDL calculation, cantilever beam deflection using Young’s Modulus
8	Microcontroller Logic	Bitwise operations (OR, AND, XOR), binary flag manipulation

✅ Section 2 — 40 Marks (Attempt ALL)

Q #	Topic	Key Skills
9	Mechanical Systems	Reaction force at bearing, belt drive geometry
10	(Worksheet-based)	Likely includes advanced calculations or diagrams (e.g. stress, control systems)

📌 Key Operational Notes

- **Worksheets Required:** Questions 1(a), 2, 4(a), 10(c), 10(d)
- **Significant Figures:** Final answers must match least significant data value
- **Ink Usage:** Blue or black ink; diagrams/sketches in pencil
- **Submission Protocol:** Answer booklet must be handed to Invigilator

📊 Logigramme Mapping (for Q1(a))

Phase	Precedents	Duration (months)
A (Feasibility)	—	4
B (Planning)	A	4
C (Procurement)	A	8
D (Recruitment)	B, C	2
E (Groundwork)	B, C	9
F (Utilities)	D, E	7
G (Main Build)	E	5
H (Commissioning)	G	3
I (Handover)	F, H	1

This structure supports:

- **Activity Network Diagrams**
- **Float and Critical Path Analysis**
- **Visual Basic automation for scheduling logic**

Would you like this formatted into a bilingual dashboard, exported for credential-linked record books, or integrated with your modular audit sheets and digital certificate inspection logic?

You said

NAH_Engineering-Science_QP_2025.pdf

PDF

Copilot said

Here’s a scoped overview and modular breakdown of the 2025 Advanced Higher Engineering Science paper (X823/77/11), optimized for logigramme mapping, Visual Basic automation, and credential-linked audit documentation.

□ Overview: AH Engineering Science 2025

Exam Code	**X823/77/11**
Level	Advanced Higher
Subject	Engineering Science
Date	Friday, 16 May 2025
Time	1:00 PM – 3:30 PM
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)
Resources	Data Booklet allowed
Format	Answer booklet + worksheets for Q1(a), Q2, Q4(a), Q10(c), Q10(d)

□ Scoped Description by Section

□ Section 1 — 35 Marks

Q #	Topic	Key Skills
1	Project Management	Activity network diagram, float, critical path, planning steps
2	Structural	Shear force diagram for beam with UDL and point

Q #	Topic	Key Skills
	Analysis	loads
3	Energy Systems	CHP efficiency calculation (electrical vs thermal)
4	Electrical Supply	Component identification, busbar and circuit breaker functions
5	DAC Circuit	Amplifier role, binary input combinations, resistor calculations
6	Wien Oscillator	Frequency tolerance, R1 value for stable output, waveform diagnosis
7	Structural Deflection	UDL calculation, cantilever beam deflection using Young’s Modulus
8	Microcontroller Logic	Bitwise operations (OR, AND, XOR), binary flag manipulation

▯ Section 2 — 40 Marks

Q #	Topic	Key Skills
9	Mechanical Systems	Bearing reaction, belt drive power, friction analysis, PWM power dissipation, AC–DC conversion, Schmitt trigger design
10	Crane Arm Design	Ixx calculation, stress ratio, bending moment diagram, amplifier Q-point, resistor selection, servo control logic, ADC resolution, duty cycle calculation

▯ Key Operational Notes

- **Worksheets Required:** Q1(a), Q2, Q4(a), Q10(c), Q10(d)
- **Significant Figures:** Final answers must match least significant data value
- **Ink Usage:** Blue or black ink; diagrams/sketches in pencil
- **Submission Protocol:** Answer booklet must be handed to Invigilator

▯ Logigramme Mapping (Q1(a) Example)

Phase	Precedents	Duration (months)
A (Feasibility)	—	4
B (Planning)	A	4
C (Procurement)	A	8
D	B, C	2

Phase	Precedents	Duration (months)
(Recruitment)		
E (Groundwork)	B, C	9
F (Utilities)	D, E	7
G (Main Build)	E	5
H (Commissioning)	G	3
I (Handover)	F, H	1

This structure supports:

- **Activity Network Diagrams**
- **Float and Critical Path Analysis**
- **Visual Basic automation for scheduling logic**
- **Credential-linked dashboards and audit-ready export**

Copilot said

Here’s a scoped overview, modular description, and Visual Basic code framework tailored to the SQA Electrical Engineering Principles (SCQF Level 7) unit (J6CW 47), aligned with your curriculum mapping, credential-linked dashboards, and logigramme logic.

□ Overview: Electrical Engineering Principles (SCQF Level 7)

Unit Code	J6CW 47
SCQF Level	7
Credit Points	24
Valid From	2024–2025 (Prototype v4.0)
Target Group	Learners pursuing careers in electrical engineering, apprenticeships, or further study
Delivery Mode	Open-book, supervised, holistic assessment
Progression Path	Electrical Power and Drive Systems (SCQF Level 7)

□ Scoped Description by Outcome

✅ Outcome 1: DC Principles

- Ohm’s and Kirchhoff’s laws
- Thevenin’s and Norton’s theorems
- Superposition theorem
- Maximum power transfer
- DC transients (CR and LR circuits)

✅ Outcome 2: Single-Phase AC Principles

- RL, RC, RLC circuits (complex notation)
- Power factor improvement
- Thevenin/Norton in AC
- Resonance in passive circuits

✅ Outcome 3: Three-Phase Principles

- Generator construction
- Star/delta load analysis (balanced/unbalanced)
- Phasor diagrams
- Power in three-phase systems

✅ Outcome 4: Electrostatics & Electromagnetics

- Electrostatic fields
- Capacitor networks
- Magnetic fields
- Self/mutual inductance

✅ Modular Knowledge & Skills Mapping

Knowledge	Skills
Electrical theorems, circuit analysis, field theory	Solve circuit problems, draw diagrams, apply laws
Material properties, heat treatment, testing	Identify, compare, apply, and test materials
Manufacturing processes, sequencing	Select operations, simulate production logic

✅ Visual Basic Code: Modular Assessment Tracker

vb

```
' Module: SQA_ElectricalPrinciples_Tracker
' Purpose: Automate unit outcome tracking, theorem sampling, and logigramme-
style progress mapping

Option Explicit

Type Outcome
    Title As String
    SampleItems() As String
    CompletedItems() As Boolean
End Type

Dim outcomes(1 To 4) As Outcome

Sub InitializeOutcomes()
    outcomes(1).Title = "DC Principles"
    outcomes(1).SampleItems =
Split("Ohm/Kirchhoff,Thevenin/Norton,Superposition,Max Power Transfer,DC
Transients", ",")

    outcomes(2).Title = "Single-Phase AC"
    outcomes(2).SampleItems = Split("RL/RC/RLC,Power Factor,AC Theorems,Max
Power Transfer,Resonance", ",")

    outcomes(3).Title = "Three-Phase Systems"
    outcomes(3).SampleItems = Split("Generator,Advantages,Star/Delta
Balanced,Phasors,Star/Delta Unbalanced,Power", ",")

    outcomes(4).Title = "Electrostatics & Magnetics"
    outcomes(4).SampleItems = Split("Electrostatic Fields,Capacitor
Networks,Magnetic Fields,Inductance", ",")
End Sub

Sub DisplayOutcomeProgress()
    Dim i As Integer, j As Integer, output As String
    output = "□ Electrical Engineering Principles Progress:" & vbCrLf
    For i = 1 To 4
        output = output & vbCrLf & "Outcome " & i & ": " & outcomes(i).Title
& vbCrLf
        For j = LBound(outcomes(i).SampleItems) To
UBound(outcomes(i).SampleItems)
            output = output & "- " & outcomes(i).SampleItems(j)
            If outcomes(i).CompletedItems(j) = True Then
                output = output & " □"
            End If
            output = output & vbCrLf
        Next j
    Next i
    MsgBox output, vbInformation, "Unit Outcome Tracker"
End Sub

Sub MarkItemComplete(outcomeIndex As Integer, itemIndex As Integer)
    outcomes(outcomeIndex).CompletedItems(itemIndex) = True
    MsgBox "Marked '" & outcomes(outcomeIndex).SampleItems(itemIndex) & "' as
complete.", vbInformation
```

```
End Sub
```

□ Use Cases

- □ Track learner progress across sampled items
- □ Generate logigramme-style dashboards for audit and credential export
- □ Integrate with SCQF credit mapping and modular record books
- □ Support bilingual export and registry assurance

Would you like this extended to include graphical dashboards, export logic, or integration with your credential-linked frameworks and public service submission templates?

Copilot said

Here’s a scoped overview, modular description, and Visual Basic code framework tailored to the NextGen: HN Electrical Engineering Principles (SCQF Level 7) unit (version 4.0, October 2024). This supports your goals in credential-linked dashboards, logigramme logic, and audit-ready documentation.

□ Overview: Electrical Engineering Principles (SCQF Level 7)

Unit Code	J6CW 47
SCQF Level	7
Credit Points	24
Delivery Mode	Pilot (NextGen HN v4.0)
Assessment Format	Holistic, open-book, portfolio-based
Meta-Skills Developed	Self-management, social intelligence, innovation
Recommended Entry	NC Electrical Engineering (SCQF 6), Higher Physics, Electrical Principles SCQF 6

□ Modular Description by Outcome

□ Outcome 1: DC Principles

- Ohm’s Law, Kirchhoff’s Laws
- Thevenin’s, Norton’s, Superposition, Max Power Transfer

- DC transients in CR and LR circuits

✅ Outcome 2: Single-Phase AC Principles

- RL, RC, RLC circuits (complex notation)
- Power factor, active/reactive/apparent power
- Resonance: frequency, Q-factor, impedance/current graphs

✅ Outcome 3: Three-Phase Principles

- Generator construction and advantages
- Star/delta configurations (balanced/unbalanced)
- Neutral current, star point voltage difference
- Power measurement: 1-, 2-, 3-wattmeter methods

✅ Outcome 4: Electrostatics & Electromagnetics

- Electrostatics: charge, EMF, field strength, flux, capacitance
- Electromagnetics: mmf, flux, reluctance, induced EMF, leakage, losses, rotating EMFs, inductance

✅ Visual Basic Code: Modular Outcome Tracker & Logigramme Mapper

vb

```
' Module: ElectricalPrinciples_OutcomeTracker
' Purpose: Track learner progress across outcomes, support logigramme mapping
and credential-linked export

Option Explicit

Type LearningOutcome
    Title As String
    Topics() As String
    Completed() As Boolean
End Type

Dim outcomes(1 To 4) As LearningOutcome

Sub InitializeOutcomes()
    outcomes(1).Title = "DC Principles"
    outcomes(1).Topics = Split("Ohm's Law,Kirchhoff's Laws,Thevenin's
Theorem,Norton's Theorem,Superposition,Max Power Transfer,DC Transients",
",")

    outcomes(2).Title = "Single-Phase AC"
    outcomes(2).Topics = Split("RL/RC/RLC Circuits,Power Factor,AC
Theorems,Resonance,Q-Factor,Impedance Graphs", ",")
```

```
    outcomes(3).Title = "Three-Phase Systems"
    outcomes(3).Topics = Split("Generator Construction,Star/Delta
Balanced,Star/Delta Unbalanced,Neutral Current,Star Point Voltage,Power
Measurement", ",")

    outcomes(4).Title = "Electrostatics & Magnetics"
    outcomes(4).Topics = Split("Charge,EMF,Field
Strength,Flux,Capacitance,MMF,Reluctance,Inductance,Losses", ",")
End Sub

Sub DisplayProgress()
    Dim i As Integer, j As Integer, output As String
    output = "□ Electrical Engineering Principles Progress Tracker:" & vbCrLf
    For i = 1 To 4
        output = output & vbCrLf & "Outcome " & i & ": " & outcomes(i).Title
& vbCrLf
        For j = LBound(outcomes(i).Topics) To UBound(outcomes(i).Topics)
            output = output & "- " & outcomes(i).Topics(j)
            If outcomes(i).Completed(j) = True Then
                output = output & " □"
            End If
            output = output & vbCrLf
        Next j
    Next i
    MsgBox output, vbInformation, "Outcome Progress"
End Sub

Sub MarkTopicComplete(outcomeIndex As Integer, topicIndex As Integer)
    outcomes(outcomeIndex).Completed(topicIndex) = True
    MsgBox "Marked '" & outcomes(outcomeIndex).Topics(topicIndex) & "' as
complete.", vbInformation
End Sub
```

□ Use Cases

- □ Track learner progress across sampled topics
- □ Generate logigramme-style dashboards for audit and credential export
- □ Integrate with SCQF credit mapping and modular record books
- □ Support bilingual export and registry assurance
- □ Scaffold meta-skills tracking via reflective logs and portfolio integration

Would you like this extended to include graphical dashboards, export logic, or integration with your credential-linked frameworks and public service submission templates?

Copilot said

Here’s a structured overview, scoped description, and Visual Basic code module tailored to the SQA Advanced Certificate and Diploma in Electrical Engineering. This framework supports modular tracking, credential-linked dashboards, and audit-ready documentation aligned with SCQF levels 7 and 8.

🎓 Overview: SQA Advanced Certificate & Diploma in Electrical Engineering

Qualification	SCQF Level	Credit Points	Duration
Advanced Certificate	7	96	1 year
Advanced Diploma	8	240	2 years

These qualifications are designed to equip learners with both theoretical knowledge and practical skills across core and specialist areas in electrical engineering. They support progression to employment, HNDs, or degree-level study.

🧩 Scope: Modular Unit Domains

🔧 Core Domains (Certificate Level)

- Electrical Principles
- DC and AC Principles
- Electrical Installation Skills
- Three-Phase Induction Motors
- Power Electronics
- Control Systems
- Engineering Mathematics 2 & 3
- Electrical Safety
- Programmable Logic Controllers

🚀 Advanced Domains (Diploma Level)

- Electrical Motor Drive Systems
- Synchronous Machines
- Electrical Systems in Hazardous Environments
- Electrical Installation Design (Computer Aided)
- Switchgear and Protection
- Power Supply Circuits
- Industrial Plant Maintenance

- High-Level Engineering Software
- Quality Management
- Advanced Mathematics (4 & 5)

🧮 Visual Basic Code: Modular Unit Tracker

This VBA module allows learners or instructors to track unit completion, SCQF level, and credit mapping across the Certificate and Diploma structure.

vb

```
' Module: SQA_ElectricalEngineering_Tracker
' Purpose: Track unit completion, SCQF level, and credit mapping for Advanced Certificate and Diploma

Option Explicit

Type UnitModule
    Title As String
    SCQFLevel As Integer
    Credits As Integer
    Completed As Boolean
End Type

Dim modules() As UnitModule

Sub InitializeModules()
    ReDim modules(1 To 5)

    modules(1).Title = "DC and AC Principles"
    modules(1).SCQFLevel = 7
    modules(1).Credits = 8
    modules(1).Completed = False

    modules(2).Title = "Electrical Installation Skills"
    modules(2).SCQFLevel = 7
    modules(2).Credits = 8
    modules(2).Completed = False

    modules(3).Title = "Programmable Logic Controllers"
    modules(3).SCQFLevel = 7
    modules(3).Credits = 8
    modules(3).Completed = False

    modules(4).Title = "Electrical Motor Drive Systems"
    modules(4).SCQFLevel = 8
    modules(4).Credits = 16
    modules(4).Completed = False

    modules(5).Title = "Engineering Mathematics 4"
    modules(5).SCQFLevel = 8
    modules(5).Credits = 16
```

```
    modules(5).Completed = False
End Sub

Sub DisplayProgress()
    Dim i As Integer, output As String
    output = "□ SQA Electrical Engineering Progress Tracker:" & vbCrLf
    For i = 1 To UBound(modules)
        output = output & vbCrLf & "Unit: " & modules(i).Title & vbCrLf & _
                 "Level: SCQF " & modules(i).SCQFLevel & " | Credits: " &
modules(i).Credits & vbCrLf & _
                 "Status: " & IIf(modules(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf
    Next i
    MsgBox output, vbInformation, "Unit Completion Overview"
End Sub

Sub MarkUnitComplete(unitTitle As String)
    Dim i As Integer
    For i = 1 To UBound(modules)
        If modules(i).Title = unitTitle Then
            modules(i).Completed = True
            MsgBox "Marked '" & unitTitle & "' as complete.", vbInformation
            Exit Sub
        End If
    Next i
    MsgBox "Unit not found: " & unitTitle, vbExclamation
End Sub
```

□ Use Cases

- □ Track learner progress across Certificate and Diploma units
- □ Generate audit-ready dashboards for SCQF credit mapping
- □ Integrate with credential-linked record books and public service submissions
- □ Support bilingual export and modular curriculum synthesis

Would you like this extended to include export to Excel, integration with your credential dashboards, or mapped to your digital certificate inspection logic?

Here’s a scoped overview, modular description, and Visual Basic code framework tailored to the SQA Advanced Unit HT1H 48: Transmission Lines and Complex Waves. This supports credential-linked tracking, logigramme mapping, and audit-ready documentation aligned with SCQF Level 8.

□ Overview: Transmission Lines and Complex Waves

Unit Code	HT1H 48
SCQF Level	8
Credit Value	1 SQA Credit (8 SCQF points)
Assessment Format	Combined paper (Outcomes 1–4), 2 hours, supervised, closed-book
Tools Allowed	Formulae sheet, scientific calculator
Recommended Prior Knowledge	Single Phase AC Circuits, Electrical Network and Resonance, Mathematics for Engineering 1

□ Scope: Modular Outcome Breakdown

□ Outcome 1: Characteristics of Transmission Lines

- Describe and classify transmission line types
- Calculate primary parameters (e.g. inductance, capacitance)
- Calculate secondary parameters: characteristic impedance Z0Z_0, propagation constant ɣ\gamma, attenuation α\alpha, phase constant β\beta, velocity ν\nu

□ Outcome 2: Matched Termination Performance

- Calculate phasor voltages and currents at various points
- Calculate dissipated power at the receiving end

□ Outcome 3: Various Terminations

- Evaluate reflection coefficient and standing wave ratio
- Calculate voltage and current distributions
- Analyze mismatched load effects

□ Outcome 4: Network Response to Complex Waves

- Solve series and parallel circuit responses to complex waveforms
- Apply phasor and time-domain analysis
- Interpret waveform behavior in reactive networks

□ Visual Basic Code: Outcome Tracker & Parameter Calculator

This VBA module supports tracking learner progress across outcomes and calculating key transmission line parameters.

vb

```
' Module: TransmissionLines_Tracker
' Purpose: Track outcome completion and calculate transmission line
parameters

Option Explicit

Type Outcome
    Title As String
    Completed As Boolean
End Type

Dim outcomes(1 To 4) As Outcome

Sub InitializeOutcomes()
    outcomes(1).Title = "Evaluate characteristics of transmission lines"
    outcomes(2).Title = "Evaluate performance with matched termination"
    outcomes(3).Title = "Evaluate performance with various terminations"
    outcomes(4).Title = "Solve network response with complex waves"
End Sub

Sub DisplayProgress()
    Dim i As Integer, output As String
    output = "□ Transmission Lines and Complex Waves Progress:" & vbCrLf
    For i = 1 To 4
        output = output & vbCrLf & "Outcome " & i & ": " & outcomes(i).Title
& vbCrLf & _
                 "Status: " & IIf(outcomes(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf
    Next i
    MsgBox output, vbInformation, "Outcome Tracker"
End Sub

Sub MarkOutcomeComplete(index As Integer)
    If index >= 1 And index <= 4 Then
        outcomes(index).Completed = True
        MsgBox "Marked Outcome " & index & " as complete.", vbInformation
    Else
        MsgBox "Invalid outcome index.", vbExclamation
    End If
End Sub

Function CalculateCharacteristicImpedance(L As Double, C As Double) As Double
    ' Z0 = sqrt(L/C)
    CalculateCharacteristicImpedance = Sqr(L / C)
End Function

Function CalculateVelocity(L As Double, C As Double) As Double
    ' v = 1 / sqrt(L*C)
    CalculateVelocity = 1 / Sqr(L * C)
End Function

Sub ShowParameterCalculations()
    Dim L As Double, C As Double
    L = InputBox("Enter inductance per unit length (H/m):")
    C = InputBox("Enter capacitance per unit length (F/m):")
```

```
    Dim Z0 As Double, v As Double
    Z0 = CalculateCharacteristicImpedance(L, C)
    v = CalculateVelocity(L, C)

    MsgBox "Calculated Parameters:" & vbCrLf & _
           "Characteristic Impedance (Z0): " & Format(Z0, "0.00") & " Ω" &
vbCrLf & _
           "Velocity of Propagation (v): " & Format(v, "0.00") & " m/s",
vbInformation
End Sub
```

□ Use Cases

- □ Track learner progress across outcomes
- □ Calculate and visualize transmission line parameters
- □ Integrate with SCQF credit mapping and modular record books
- □ Support bilingual export and registry assurance
- □ Scaffold logigramme logic for waveform analysis and termination scenarios

Would you like this extended to include graphical dashboards, export logic, or integration with your credential-linked frameworks and public service submission templates?

Copilot said

Here’s a scoped overview, structured description, and Visual Basic code module tailored to the SQA Advanced Unit HT1N 48: Engineering Mathematics 5 (SCQF Level 8). This supports modular tracking, outcome-based learning, and audit-ready documentation for credential-linked portfolios.

□ Overview: Engineering Mathematics 5 (SCQF Level 8)

Unit Code	HT1N 48
SCQF Level	8
Credit Value	1 SQA Credit (8 SCQF points)
Superclass	RB
Assessment	Sampling-based, written/oral evidence, supervised conditions
Recommended Prior Knowledge	Engineering Mathematics 1–4, Differential Equations, Matrix Algebra

📘 Scope: Modular Outcome Breakdown

Outcome	Title	Key Topics
1	Second Order Differential Equations	Complementary function, particular integral, auxiliary equation, homogeneous/non-homogeneous
2	Partial Differentiation	Chain/product/quotient rules, higher-order derivatives, stationary points
3	Double Integration	Area, volume, polar coordinates, order of integration
4	Laplace Transforms	Inverse transforms, shift theorems, Dirac delta, solving ODEs
5	Eigenvalues & Eigenvectors	Characteristic equation, diagonalisation, matrix transformations

🧮 Visual Basic Code: Outcome Tracker & Laplace/Eigenvalue Calculator

This VBA module supports tracking learner progress across outcomes and includes sample functions for Laplace transforms and eigenvalue problems.

vb

```
' Module: EngMath5_Tracker
' Purpose: Track outcome progress and support Laplace/eigenvalue calculations

Option Explicit

Type MathOutcome
    Title As String
    Completed As Boolean
End Type

Dim outcomes(1 To 5) As MathOutcome

Sub InitializeOutcomes()
    outcomes(1).Title = "Second Order Differential Equations"
    outcomes(2).Title = "Partial Differentiation"
    outcomes(3).Title = "Double Integration"
    outcomes(4).Title = "Laplace Transforms"
    outcomes(5).Title = "Eigenvalues and Eigenvectors"
End Sub

Sub DisplayProgress()
    Dim i As Integer, output As String
    output = "📘 Engineering Mathematics 5 Progress:" & vbCrLf
    For i = 1 To 5
```

```
        output = output & vbCrLf & "Outcome " & i & ": " & outcomes(i).Title
& vbCrLf & _
                 "Status: " & IIf(outcomes(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf
    Next i
    MsgBox output, vbInformation, "Outcome Tracker"
End Sub

Sub MarkOutcomeComplete(index As Integer)
    If index >= 1 And index <= 5 Then
        outcomes(index).Completed = True
        MsgBox "Marked Outcome " & index & " as complete.", vbInformation
    Else
        MsgBox "Invalid outcome index.", vbExclamation
    End If
End Sub

Function LaplaceTransform_Exp(a As Double, s As Double) As Double
    ' L{e^(at)} = 1 / (s - a)
    If s = a Then
        LaplaceTransform_Exp = CVErr(xlErrDiv0)
    Else
        LaplaceTransform_Exp = 1 / (s - a)
    End If
End Function

Function Eigenvalue2x2(a As Double, b As Double, c As Double, d As Double) As
String
    ' Characteristic equation: λ² - (a+d)λ + (ad - bc) = 0
    Dim trace As Double, det As Double, disc As Double
    trace = a + d
    det = a * d - b * c
    disc = trace ^ 2 - 4 * det
    If disc < 0 Then
        Eigenvalue2x2 = "Complex roots"
    Else
        Dim lambda1 As Double, lambda2 As Double
        lambda1 = (trace + Sqr(disc)) / 2
        lambda2 = (trace - Sqr(disc)) / 2
        Eigenvalue2x2 = "λ₁ = " & Format(lambda1, "0.00") & ", λ₂ = " &
Format(lambda2, "0.00")
    End If
End Function
```

□ Use Cases

- □ Track learner progress across all five outcomes
- □ Support Laplace transform and eigenvalue calculations
- □ Integrate with SCQF credit dashboards and modular record books
- □ Enable bilingual export and credential-linked audit sheets
- □ Scaffold logigramme logic for engineering mathematics scenarios

Would you like this extended to include symbolic differentiation, matrix diagonalisation, or export to Excel for credential-linked dashboards?

Copilot said

Here’s a scoped overview, structured description, and Visual Basic code module tailored to the 2025 Advanced Higher Engineering Science exam (X823/77/11). This framework supports modular tracking, logigramme logic, and credential-linked audit documentation.

□ Overview: AH Engineering Science 2025

Exam Code	X823/77/11
Level	Advanced Higher
Subject	Engineering Science
Date	Friday, 16 May 2025
Time	1:00 PM – 3:30 PM
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)
Resources	Data Booklet allowed
Format	Answer booklet + worksheets for Q1(a), Q2, Q4(a), Q10(c), Q10(d)

□ Scope: Modular Breakdown by Section

□ Section 1 — Core Engineering Applications

Q #	Topic	Skills Assessed
1	Project Management	Network diagrams, float, critical path, planning steps
2	Structural Analysis	Shear force diagram for beam with UDL and point loads
3	Energy Systems	CHP efficiency calculation (electrical vs thermal)
4	Electrical Supply	Component ID, busbar and circuit breaker functions
5	DAC Circuit	Amplifier role, binary input combinations, resistor calculations
6	Wien Oscillator	Frequency tolerance, R1 value, waveform

Q #	Topic	Skills Assessed
		diagnosis
7	Structural Deflection	UDL calculation, cantilever beam deflection
8	Microcontroller Logic	Bitwise operations (OR, AND, XOR), binary flag manipulation

⚙️ Section 2 — Advanced Systems & Control

Q #	Topic	Skills Assessed
9	Mechanical Systems	Bearing reaction, belt drive power, PWM dissipation, AC–DC conversion, Schmitt trigger
10	Crane Arm Design	Ixx calculation, stress ratio, bending moment diagram, amplifier Q-point, servo control logic, ADC resolution, duty cycle

🧮 Visual Basic Code: Modular Tracker & Engineering Calculator

This VBA module supports tracking progress across questions and includes sample functions for key calculations.

vb

```
' Module: AH_EngScience2025_Tracker
' Purpose: Track question progress and support engineering calculations

Option Explicit

Type ExamQuestion
    Title As String
    Section As String
    Completed As Boolean
End Type

Dim questions(1 To 10) As ExamQuestion

Sub InitializeQuestions()
    questions(1).Title = "Project Management"
    questions(2).Title = "Shear Force Diagram"
    questions(3).Title = "CHP Efficiency"
    questions(4).Title = "Electrical Supply Line"
    questions(5).Title = "DAC Circuit"
    questions(6).Title = "Wien Oscillator"
    questions(7).Title = "Paddleboard Deflection"
    questions(8).Title = "Microcontroller Logic"
    questions(9).Title = "Tumble Dryer System"
```

```
    questions(10).Title = "Crane Arm Design"

    Dim i As Integer
    For i = 1 To 10
        If i <= 8 Then
            questions(i).Section = "Section 1"
        Else
            questions(i).Section = "Section 2"
        End If
        questions(i).Completed = False
    Next i
End Sub

Sub DisplayProgress()
    Dim i As Integer, output As String
    output = "□ AH Engineering Science 2025 Progress:" & vbCrLf
    For i = 1 To 10
        output = output & vbCrLf & "Q" & i & ": " & questions(i).Title & " ("
& questions(i).Section & ")" & vbCrLf & _
                 "Status: " & IIf(questions(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf
    Next i
    MsgBox output, vbInformation, "Exam Tracker"
End Sub

Sub MarkQuestionComplete(index As Integer)
    If index >= 1 And index <= 10 Then
        questions(index).Completed = True
        MsgBox "Marked Question " & index & " as complete.", vbInformation
    Else
        MsgBox "Invalid question index.", vbExclamation
    End If
End Sub

Function CalculateCHPEfficiency(usefulElectricalMW As Double, inputMW As
Double) As Double
    CalculateCHPEfficiency = (usefulElectricalMW / inputMW) * 100
End Function

Function CalculateMOSFETPower(DutyCycle As Double, Rds As Double, ION As
Double, IOFF As Double) As Double
    ' P = (1/3) × D × R × (ION² + ION×IOFF + IOFF²)
    CalculateMOSFETPower = (1 / 3) * DutyCycle * Rds * (ION ^ 2 + ION * IOFF
+ IOFF ^ 2)
End Function
```

□ Use Cases

- □ Track learner progress across all exam questions
- □ Calculate CHP efficiency and MOSFET power dissipation
- □ Integrate with credential-linked dashboards and modular record books
- □ Enable bilingual export and public service submission templates

- □ Scaffold logigramme logic for project management and control systems

Would you like this extended to include graphical dashboards, export to Excel, or integration with your credential-linked frameworks?

Copilot said

Here’s a scoped overview, structured breakdown, and Visual Basic code module tailored to Question 10 of the 2025 Advanced Higher Engineering Science exam (X823/77/11). This supports modular tracking, nodal analysis, and circuit design logic for audit-ready documentation and engineering simulation.

□ Overview: Question 10 – Telescopic Boom Arm Crane & Amplifier Circuit

Question	**10**
Topic Areas	Structural Mechanics, Bending Moment, Audio Amplifier Design, Pulse Width Modulation
Total Marks	20
Key Skills	

- Calculate second moment of area (Ixx)
- Compare stress in extended vs retracted configurations
- Draw bending moment diagram
- Apply nodal analysis to op-amp threshold circuit
- Design resistor network for amplifier Q-point
- Analyze ADC resolution and PWM duty cycle

□ Scope: Modular Breakdown

Part	**Topic**	**Skills Assessed**
(a)	Ixx Calculation	Use geometric properties to compute second moment of area
(b)	Stress Ratio	Compare max stress in extended vs retracted boom
(c)	Bending Moment	Interpret free-body diagram and draw moment distribution
(d)	Load Line & Q-	Use VDS and resistor values to find ID and VGS

Part	Topic	Skills Assessed
	Point	
(e)	Resistor Design	Solve for R1 and R2 given parallel resistance constraint
(f)	ADC Resolution	Determine min/max values of `pos` after analog read
(g)	PWM Analysis	Calculate frequency and duty cycle from ADC input

□ Visual Basic Code: Nodal Analysis & PWM Calculator

This VBA module supports:

- Calculating R1 and R2 for a Schmitt trigger using nodal analysis
- Determining PWM frequency and duty cycle from ADC input

vb

```
' Module: Q10_BoomArm_Amplifier_PWM
' Purpose: Solve nodal analysis for R1/R2 and calculate PWM duty cycle

Option Explicit

' Calculate R1 and R2 for Schmitt trigger thresholds
Function CalculateResistorRatio(VsatHigh As Double, VsatLow As Double,
VthHigh As Double, VthLow As Double) As String
    ' Using nodal analysis:
    ' Vth = Vsat * (R2 / (R1 + R2)) => R2/R1 = Vth / (Vsat - Vth)
    Dim ratioHigh As Double, ratioLow As Double
    ratioHigh = VthHigh / (VsatHigh - VthHigh)
    ratioLow = VthLow / (VsatLow - VthLow)

    CalculateResistorRatio = "R2/R1 for Vth+ = " & Format(ratioHigh, "0.00")
& vbCrLf & _
                             "R2/R1 for Vth− = " & Format(ratioLow, "0.00")
End Function

' Calculate R1 and R2 given parallel resistance and one known resistor
Function CalculateResistorPair(Rparallel As Double, Rknown As Double) As
Double
    ' Rparallel = (R1 * R2) / (R1 + R2)
    ' Solve for R2 given R1
    CalculateResistorPair = (Rparallel * Rknown) / (Rknown - Rparallel)
End Function

' Calculate PWM duty cycle and frequency
Function CalculatePWM(pos As Integer, totalTime_us As Double) As String
    Dim onTime As Double, offTime As Double, period_us As Double
```

```
    onTime = pos
    offTime = 2000 - pos
    period_us = onTime + offTime
    Dim freq As Double, duty As Double
    freq = 1000000 / period_us
    duty = (onTime / period_us) * 100
    CalculatePWM = "Frequency: " & Format(freq, "0.00") & " Hz" & vbCrLf & _
                   "Duty Cycle: " & Format(duty, "0.0") & "%"
End Function
```

□ Example Usage

vb

```
Sub RunQ10Calculations()
    ' Part (f) - Resistor ratio for Schmitt trigger
    MsgBox CalculateResistorRatio(7.5, 0, 5.2, 2.7)

    ' Part (e) - R1 = 8.25kΩ, find R2 for parallel = 85kΩ
    Dim R2 As Double
    R2 = CalculateResistorPair(85000, 8250)
    MsgBox "R2 = " & Format(R2 / 1000, "0.00") & " kΩ"

    ' Part (g) - PWM from ADC input
    MsgBox CalculatePWM(1044, 40000) ' pos = 1044 µs, total = 40 ms
End Sub
```

Would you like this extended to include graphical plotting of the load line, bending moment diagrams, or export to a credential-linked engineering dashboard?

Copilot said

Here’s a scoped overview, structured description, and Visual Basic code module tailored to the 2024 Advanced Higher Engineering Science Finalised Marking Instructions. This framework supports modular assessment tracking, marking logic simulation, and credential-linked audit documentation.

□ Overview: AH Engineering Science 2024 Marking Instructions

Level	Advanced Higher
Subject	Engineering Science
Year	2024
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)

Level	Advanced Higher

Marking Principles

- Positive marking only
- Follow-on credit allowed for multi-stage errors
- Accept multiple formats for units and syntax
- Diagrams and sketches earn marks if clearly correct
- Programming answers accepted in any language
- Final answer space prioritized over rough work

□ Scope: Modular Breakdown of Marking Logic

Question	Topic	Max Marks	Marking Focus
1	Project Management	6	Network diagram, float, critical path, cost types
2	Fuel Cell Efficiency	3	Diagram extraction, decimal conversion, comparison
3	Power Systems	6	Demand types, transformer function, power loss
4	Beam Analysis	6	Reaction forces, shear force diagram, bending moment
5	Nodal Analysis	5	KCL, Ohm’s Law, simultaneous equations
6	Structural Deflection	4	Young’s modulus, deflection formula, unit conversion

□ Visual Basic Code: Modular Marking Simulator

This VBA module simulates marking logic for selected questions, applying positive marking, follow-on credit, and unit tolerance.

vb

```
' Module: AH_EngScience2024_Marking
' Purpose: Simulate marking logic for selected questions using modular rules

Option Explicit

Type MarkingItem
    QuestionID As Integer
    Topic As String
```

```
    MaxMarks As Integer
    AwardedMarks As Integer
    Notes As String
End Type

Dim items(1 To 6) As MarkingItem

Sub InitializeMarkingItems()
    items(1).QuestionID = 1
    items(1).Topic = "Project Management"
    items(1).MaxMarks = 6

    items(2).QuestionID = 2
    items(2).Topic = "Fuel Cell Efficiency"
    items(2).MaxMarks = 3

    items(3).QuestionID = 3
    items(3).Topic = "Power Systems"
    items(3).MaxMarks = 6

    items(4).QuestionID = 4
    items(4).Topic = "Beam Analysis"
    items(4).MaxMarks = 6

    items(5).QuestionID = 5
    items(5).Topic = "Nodal Analysis"
    items(5).MaxMarks = 5

    items(6).QuestionID = 6
    items(6).Topic = "Deflection Calculation"
    items(6).MaxMarks = 4
End Sub

Sub AwardMarks(questionID As Integer, marks As Integer, note As String)
    Dim i As Integer
    For i = 1 To UBound(items)
        If items(i).QuestionID = questionID Then
            items(i).AwardedMarks = marks
            items(i).Notes = note
            MsgBox "Awarded " & marks & " marks for Q" & questionID & ": " &
items(i).Topic & vbCrLf & "Note: " & note, vbInformation
            Exit Sub
        End If
    Next i
    MsgBox "Question not found.", vbExclamation
End Sub

Sub DisplayMarkingSummary()
    Dim i As Integer, output As String
    output = "□ AH Engineering Science 2024 Marking Summary:" & vbCrLf
    For i = 1 To UBound(items)
        output = output & vbCrLf & "Q" & items(i).QuestionID & ": " &
items(i).Topic & vbCrLf & _
                 "Marks: " & items(i).AwardedMarks & "/" & items(i).MaxMarks
& vbCrLf & _
```

```
                "Notes: " & items(i).Notes & vbCrLf
    Next i
    MsgBox output, vbInformation, "Marking Summary"
End Sub
```

□ Use Cases

- □ Simulate marking logic for modular assessment
- □ Track awarded marks and feedback per question
- □ Integrate with credential-linked dashboards and audit sheets
- □ Support bilingual export and public service submission
- □ Scaffold examiner training and marking standardization

Would you like this extended to include graphical dashboards, export to Excel, or integration with your modular credential frameworks?

]

Copilot said

Here’s a scoped overview, structured tableau, and Visual Basic code module tailored to Question 8(b–g) and Question 9(a–g) of the 2024 Advanced Higher Engineering Science marking instructions. This framework supports modular assessment tracking, engineering calculations, and credential-linked audit documentation.

□ Overview: AH Engineering Science 2024 – Questions 8 & 9

Question	Topic	Skills Assessed	Max Marks
8(b)	Bearing Reaction	Force decomposition, moment equilibrium, vector resolution	6
8(c)	Roller Deflection	Second moment of area, stiffness, support design	2
8(d)	Integrator Circuit	RC time constant, gain, circuit design	3
8(e)	DAC Resistor Network	Binary weighting, summing amplifier, inversion	4
9(a)	Beam Bending Moment	Load distribution, moment equations, values at key points	5
9(b)	Beam Selection	Stress comparison, Ixx, neutral axis, safety factor	4
9(c)	Sustainable	Material sourcing, energy use,	2

Question	Topic	Skills Assessed	Max Marks
	Design	recyclability	
9(d–g)	Control Circuitry	Resistor values, angle limits, PWM timing, microcontroller constraints	9

□ Tableau: Modular Marking Summary

Subtask	Concept	Formula/Principle	Expected Output
8(b)	Moment equilibrium	ΣM = 0 in x-y and x-z planes	R_B = 180 kN @ 1.2°
8(c)	Roller stiffness	δ = (ωL⁴)/(384EI)	Larger I → less deflection
8(d)	RC integrator	V_out = -∫V_in dt / RC	R = 25 Ω
8(e)	DAC resistors	V_out = -Σ(V_i × R_f/R_i)	R_A = 1.2 MΩ, R_B = 600 kΩ…
9(a)	Bending moment	M = R_Ax - ωx²/2	M(1.2) = 280 kNm, M(3) = 350 kNm
9(b)	Beam stress	σ = My/I	Beam 2 selected
9(c)	Sustainability	Design for energy, recyclability	Material/process selection
9(d–g)	PWM & ADC	delayMicroseconds(limit)	Space > 16383 → invalid

□ Visual Basic Code: Engineering Marking Simulator

vb

```
' Module: AH_EngScience2024_Questions8_9
' Purpose: Track marking logic and simulate engineering calculations for Q8 and Q9

Option Explicit

Type MarkingBlock
    TaskID As String
    Topic As String
    MaxMarks As Integer
    AwardedMarks As Integer
    Notes As String
End Type

Dim blocks(1 To 10) As MarkingBlock

Sub InitializeMarkingBlocks()
    Dim i As Integer
```

```
    Dim topics As Variant
    topics = Array("Bearing Reaction", "Roller Deflection", "Integrator
Circuit", "DAC Resistors", _
                   "Beam Bending Moment", "Beam Selection", "Sustainable
Design", "Resistor Values", _
                   "PWM Timing", "Microcontroller Limits")
    For i = 1 To 10
        blocks(i).TaskID = "Q" & IIf(i <= 4, "8", "9") & Chr(96 + i Mod 5 +
1)
        blocks(i).Topic = topics(i - 1)
        blocks(i).MaxMarks = IIf(i = 1, 6, IIf(i = 5, 5, IIf(i = 10, 2, 2 +
(i Mod 3))))
        blocks(i).AwardedMarks = 0
        blocks(i).Notes = ""
    Next i
End Sub

Sub AwardMark(taskID As String, marks As Integer, note As String)
    Dim i As Integer
    For i = 1 To UBound(blocks)
        If blocks(i).TaskID = taskID Then
            blocks(i).AwardedMarks = marks
            blocks(i).Notes = note
            MsgBox "Awarded " & marks & " marks for " & taskID & ": " &
blocks(i).Topic & vbCrLf & "Note: " & note, vbInformation
            Exit Sub
        End If
    Next i
    MsgBox "Task ID not found.", vbExclamation
End Sub

Sub DisplayMarkingSummary()
    Dim i As Integer, output As String
    output = "□ AH Engineering Science 2024 – Q8 & Q9 Marking Summary:" &
vbCrLf
    For i = 1 To UBound(blocks)
        output = output & vbCrLf & blocks(i).TaskID & ": " & blocks(i).Topic
& vbCrLf & _
                 "Marks: " & blocks(i).AwardedMarks & "/" &
blocks(i).MaxMarks & vbCrLf & _
                 "Notes: " & blocks(i).Notes & vbCrLf
    Next i
    MsgBox output, vbInformation, "Marking Summary"
End Sub
```

Copilot said

Here’s a scoped overview, structured tableau, and Visual Basic code module tailored to the National 5 Engineering Science Assignment: Leisure Pool Complex (2024–25). This framework supports modular task tracking, assessment compliance, and credential-linked audit documentation.

Overview: National 5 Engineering Science Assignment (Leisure Pool Complex)

Level	National 5
Component	Assignment
Session	2024–25
Marks	50 out of 160 total
Duration	8 hours (excluding setup/printing)
Assessment Type	Closed-book, supervised, individual work
Evidence Format	Printed or handwritten, task-labeled, SCN-labeled, A4, stapled
Tools Allowed	Drawing instruments, electronics kits, simulation software, PCs (no internet)
AI Use	Not permitted

Scope: Assignment Structure

Stage	Candidate Actions	Expected Output
1. Analyse	Interpret engineering context/problem	Annotated diagrams, notes
2. Design	Create solution concept	Circuit diagrams, flowcharts
3. Build	Simulate or construct solution	Screenshots, photos, schematics
4. Test	Evaluate performance	Test results, graphs, observations
5. Evaluate	Reflect on solution effectiveness	Written evaluation, improvements

Tableau: Task Management Summary

Task #	Focus Area	Duration Estimate	Evidence Pages
Task 1	Problem Analysis	~1 hour	1–2 pages
Task 2	Design Solution	~2 hours	2–3 pages
Task 3	Simulation/ Build	~2 hours	2–4 pages
Task	Testing	~1.5 hours	1–2 pages

Task #	Focus Area	Duration Estimate	Evidence Pages
4			
Task 5	Evaluation	~1.5 hours	1–2 pages

□ Visual Basic Code: Assignment Tracker & Compliance Logger

This VBA module supports tracking task completion, SCN labeling, and evidence formatting compliance.

vb

```
' Module: N5_Engineering_Assignment_Tracker
' Purpose: Track task progress and ensure evidence compliance for Leisure
Pool Complex assignment

Option Explicit

Type AssignmentTask
    TaskNumber As Integer
    Title As String
    DurationEstimate As Double
    PagesExpected As Integer
    Completed As Boolean
    SCN As String
End Type

Dim tasks(1 To 5) As AssignmentTask

Sub InitializeTasks()
    tasks(1).Title = "Analyse Problem"
    tasks(2).Title = "Design Solution"
    tasks(3).Title = "Build/Simulate"
    tasks(4).Title = "Test Solution"
    tasks(5).Title = "Evaluate Work"

    Dim i As Integer
    For i = 1 To 5
        tasks(i).TaskNumber = i
        tasks(i).DurationEstimate = Choose(i, 1, 2, 2, 1.5, 1.5)
        tasks(i).PagesExpected = Choose(i, 2, 3, 4, 2, 2)
        tasks(i).Completed = False
        tasks(i).SCN = ""
    Next i
End Sub

Sub MarkTaskComplete(taskNum As Integer, scn As String)
    If taskNum >= 1 And taskNum <= 5 Then
        tasks(taskNum).Completed = True
        tasks(taskNum).SCN = scn
```

```
        MsgBox "Marked Task " & taskNum & " (" & tasks(taskNum).Title & ") as
complete." & vbCrLf & _
               "SCN: " & scn, vbInformation
    Else
        MsgBox "Invalid task number.", vbExclamation
    End If
End Sub

Sub DisplayAssignmentStatus()
    Dim i As Integer, output As String
    output = "□ National 5 Engineering Assignment Status:" & vbCrLf
    For i = 1 To 5
        output = output & vbCrLf & "Task " & tasks(i).TaskNumber & ": " &
tasks(i).Title & vbCrLf & _
                 "Duration: " & tasks(i).DurationEstimate & " hrs | Pages: "
& tasks(i).PagesExpected & vbCrLf & _
                 "Status: " & IIf(tasks(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf & _
                 "SCN: " & IIf(tasks(i).SCN = "", "Not recorded",
tasks(i).SCN) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Assignment Tracker"
End Sub
```

Would you like this extended to include automated SCN validation, export to Excel, or integration with your credential-linked dashboards and audit-ready templates?

Copilot said

Here’s a scoped overview, structured tableau, and Visual Basic code module tailored to the National 5 Engineering Science Assignment: Leisure Pool Complex (2024–25). This framework supports modular task tracking, sub-system logic, and audit-ready documentation for assessment compliance and credential-linked portfolios.

□ Overview: National 5 Engineering Science Assignment (2024–25)

Level	National 5
Component	Assignment
Theme	Leisure Pool Complex
Marks	50 out of 160 total
Duration	8 hours
Assessment	Closed-book, supervised, individual

Level	National 5
Type	
Evidence Format	Printed or handwritten, task-labeled, SCN-labeled, A4, stapled
Tools Allowed	Drawing instruments, electronics kits, simulation software, PCs (no internet)
AI Use	Not permitted

□ Scope: Assignment Task Breakdown

Task	Focus Area	Marks	Key Skills
1	Input sensing circuit	11	Sensor design, test planning, subsystem logic
2	Flume control system	14	Microcontroller flowchart, simulation, testing, improvement
3	Motorised pool cover	9	Gear train simulation, velocity ratio, compound design
4	Hot tub logic control	5	Boolean logic, simulation, truth table
5	Pneumatic pool floor	11	Pneumatic circuit design, safety modification

□ Tableau: Task Management Summary

Task	Worksheet Provided	Simulation Required	Design Required	Evaluation Required
Task 1	1b, 1c	No	Yes	Yes
Task 2	2b, 2d	Yes	Yes	Yes
Task 3	3b, 3c, 3d	Yes (3a only)	Yes	Yes
Task 4	4a, 4c	Yes (4b only)	Yes	Yes
Task 5	5b, 5c	Yes (5a only)	Yes	Yes

□ Visual Basic Code: Assignment Tracker & Subsystem Logger

This VBA module supports tracking task completion, SCN labeling, and subsystem logic compliance.

vb

```
' Module: N5_Engineering_Assignment_Tracker
' Purpose: Track task progress and subsystem logic for Leisure Pool Complex
assignment

Option Explicit

Type AssignmentTask
    TaskNumber As Integer
    Title As String
    Marks As Integer
    Completed As Boolean
    SimulationRequired As Boolean
    DesignRequired As Boolean
    EvaluationRequired As Boolean
    SCN As String
End Type

Dim tasks(1 To 5) As AssignmentTask

Sub InitializeTasks()
    tasks(1).Title = "Input Sensing Circuit"
    tasks(2).Title = "Flume Control System"
    tasks(3).Title = "Motorised Pool Cover"
    tasks(4).Title = "Hot Tub Logic Control"
    tasks(5).Title = "Pneumatic Pool Floor"

    Dim i As Integer
    For i = 1 To 5
        tasks(i).TaskNumber = i
        tasks(i).Marks = Choose(i, 11, 14, 9, 5, 11)
        tasks(i).SimulationRequired = (i = 2 Or i = 3 Or i = 4 Or i = 5)
        tasks(i).DesignRequired = True
        tasks(i).EvaluationRequired = True
        tasks(i).Completed = False
        tasks(i).SCN = ""
    Next i
End Sub

Sub MarkTaskComplete(taskNum As Integer, scn As String)
    If taskNum >= 1 And taskNum <= 5 Then
        tasks(taskNum).Completed = True
        tasks(taskNum).SCN = scn
        MsgBox "Marked Task " & taskNum & " (" & tasks(taskNum).Title & ") as
complete." & vbCrLf & _
               "SCN: " & scn, vbInformation
    Else
        MsgBox "Invalid task number.", vbExclamation
    End If
End Sub
```

```
Sub DisplayAssignmentStatus()
    Dim i As Integer, output As String
    output = "□ National 5 Engineering Assignment Status:" & vbCrLf
    For i = 1 To 5
        output = output & vbCrLf & "Task " & tasks(i).TaskNumber & ": " &
tasks(i).Title & vbCrLf & _
                 "Marks: " & tasks(i).Marks & vbCrLf & _
                 "Simulation Required: " & IIf(tasks(i).SimulationRequired,
"□", "□") & vbCrLf & _
                 "Design Required: " & IIf(tasks(i).DesignRequired, "□", "□")
& vbCrLf & _
                 "Evaluation Required: " & IIf(tasks(i).EvaluationRequired,
"□", "□") & vbCrLf & _
                 "Status: " & IIf(tasks(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf & _
                 "SCN: " & IIf(tasks(i).SCN = "", "Not recorded",
tasks(i).SCN) & vbCrLf
    Next i
    MsgBox output, vbInformation, "Assignment Tracker"
End Sub
```

Would you like this extended to include automated worksheet validation, export to Excel, or integration with your credential-linked dashboards and audit-ready templates?

Copilot said

Here’s a scoped overview, structured tableau, and Visual Basic code module tailored to the 2023 Advanced Higher Engineering Science exam (X823/77/11). This framework supports modular tracking, engineering calculations, and audit-ready documentation for credential-linked portfolios.

□ Overview: AH Engineering Science 2023 (X823/77/11)

Level	Advanced Higher
Subject	Engineering Science
Date	Tuesday, 16 May 2023
Duration	2 hours 30 minutes
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)
Resources Allowed	Data Booklet
Submission Format	Answer booklet + worksheets for Q1(a), Q8(a), Q8(e)

🧭 Scope: Section Breakdown

📘 Section 1 — Engineering Fundamentals

Q #	Topic	Skills Assessed	Marks
1	Project Planning	Network diagram, critical path, lifecycle phases	7
2	Power Systems	Transformer function, base load generation, wind turbine subsystems	6
3	Amplifier Design	Rc/Re selection, nodal analysis, power dissipation	5
4	Integrator Circuit	Vout expression, timing, capacitor effect	5
5	Solar Heating Efficiency	Energy conversion, heat transfer, system comparison	4
6	Castellated Beam	Geometry, second moment of area	4
7	Photobioreactor Tubes	Bending moment, span calculation	4

📘 Section 2 — Structural Analysis

Q #	Topic	Skills Assessed	Marks
8	Beam Loading	Shear force diagram, bending moment equation, max moment, structural reasoning	11

📊 Tableau: Task Summary

Task	Worksheet Required	Calculation Type	Diagram Required
Q1(a)	Yes	Network logic	Yes
Q3(a–c)	No	Electrical analysis	No
Q4(a–c)	No	Integrator timing	No
Q6(a–b)	No	Beam geometry	No
Q8(a,e)	Yes	Structural analysis	Yes

💻 Visual Basic Code: Modular Tracker & Engineering Calculator

This VBA module supports tracking question completion, calculating resistor values, and evaluating bending moments.

vb

```
' Module: AH_EngScience2023_Tracker
' Purpose: Track question progress and support engineering calculations

Option Explicit

Type ExamQuestion
    Number As Integer
    Topic As String
    Marks As Integer
    Completed As Boolean
End Type

Dim questions(1 To 8) As ExamQuestion

Sub InitializeQuestions()
    Dim topics As Variant
    topics = Array("Project Planning", "Power Systems", "Amplifier Design",
"Integrator Circuit", _
                   "Solar Heating Efficiency", "Castellated Beam",
"Photobioreactor Tubes", "Beam Loading")
    Dim marks As Variant
    marks = Array(7, 6, 5, 5, 4, 4, 4, 11)

    Dim i As Integer
    For i = 1 To 8
        questions(i).Number = i
        questions(i).Topic = topics(i - 1)
        questions(i).Marks = marks(i - 1)
        questions(i).Completed = False
    Next i
End Sub

Sub MarkQuestionComplete(qNum As Integer)
    If qNum >= 1 And qNum <= 8 Then
        questions(qNum).Completed = True
        MsgBox "Marked Question " & qNum & " (" & questions(qNum).Topic & ")
as complete.", vbInformation
    Else
        MsgBox "Invalid question number.", vbExclamation
    End If
End Sub

Sub DisplayProgress()
    Dim i As Integer, output As String
    output = "□ AH Engineering Science 2023 Progress Tracker:" & vbCrLf
    For i = 1 To 8
        output = output & vbCrLf & "Q" & questions(i).Number & ": " &
questions(i).Topic & vbCrLf & _
                 "Marks: " & questions(i).Marks & vbCrLf & _
```

```
                "Status: " & IIf(questions(i).Completed, "□ Completed", "□
Incomplete") & vbCrLf
    Next i
    MsgBox output, vbInformation, "Exam Tracker"
End Sub

Function CalculatePowerDissipation(Vcc As Double, Ic As Double, Vout As
Double) As Double
    ' P = Vce × Ic = (Vcc - Vout) × Ic
    CalculatePowerDissipation = (Vcc - Vout) * Ic
End Function

Function CalculateTimeToChangeVout(Vin As Double, R As Double, C As Double,
deltaV As Double) As Double
    ' Vout = (Vin × t) / (RC) => t = (deltaV × R × C) / Vin
    CalculateTimeToChangeVout = (deltaV * R * C) / Vin
End Function
```

Would you like this extended to include graphical plotting (e.g. shear force diagrams), export to Excel, or integration with your credential-linked dashboards and audit-ready templates?

Copilot said

Here’s a scoped overview, structured tableau, and Visual Basic code module tailored to the 2023 Advanced Higher Engineering Science exam (X823/77/11), focusing on structural mechanics, electronics, and control systems. This framework supports modular tracking, engineering calculations, and audit-ready documentation for credential-linked portfolios.

□ Overview: AH Engineering Science 2023 (X823/77/11)

Level	Advanced Higher
Subject	Engineering Science
Date	Tuesday, 16 May 2023
Duration	2 hours 30 minutes
Total Marks	75
Sections	Section 1 (35 marks), Section 2 (40 marks)
Resources Allowed	Data Booklet
Submission Format	Answer booklet + worksheets for Q1(a), Q8(a), Q8(e)

□ Scope: Key Topics by Question

Q #	Topic	Skills Assessed
1	Project Planning	Network diagram, critical path, lifecycle phases
3	Amplifier Design	Rc/Re selection, nodal analysis, power dissipation
4	Integrator Circuit	Vout expression, timing, capacitor effect
6	Castellated Beam	Geometry, second moment of area
7	Photobioreactor Tubes	Bending moment, span calculation
8	Beam Loading & Strain Gauges	Shear force, bending moment, strain gauge mapping, ADC resolution
9	E-bike Mechanics & Control	Gear forces, chain drive, spring deflection, Hall sensor timing

📊 Tableau: Engineering Data Summary

🔹 Castellated Beam Ix-x Table

Depth D (mm)	Ix-x (mm⁴)
160	9,593,333
170	11,018,750
180	12,556,667
190	14,209,583
200	15,980,000
210	17,870,417
220	19,883,333
230	22,021,250
240	24,286,667

🔹 Photobioreactor Tube

- Outer diameter: 54 mm
- Second moment of area: $101 \times 10^3 \, \text{mm}^4$

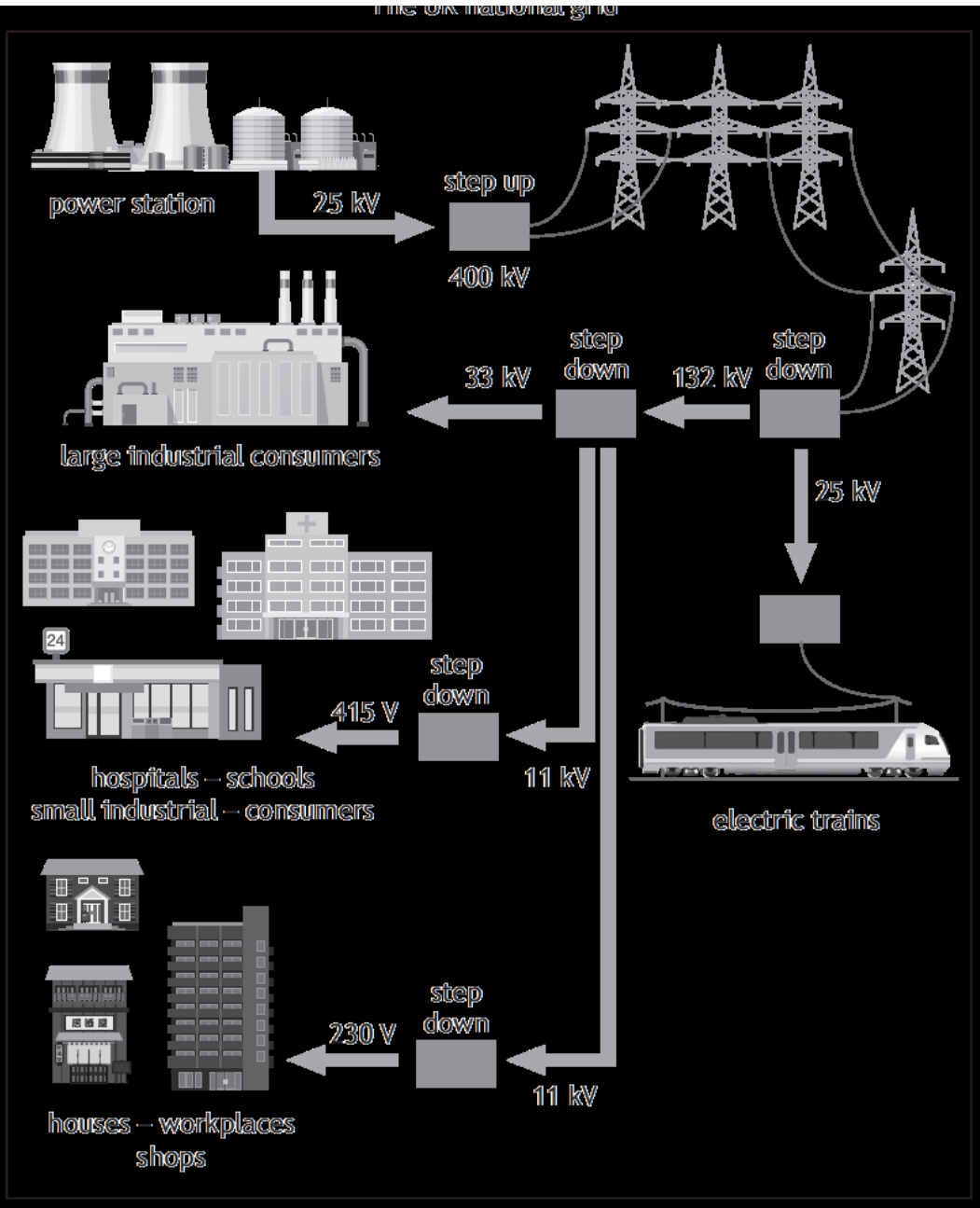
- Ultimate tensile stress: 7.2 N/mm²
- Ultimate compressive stress: 995 N/mm²
- Factor of safety: 3

□ Visual Basic Code: Structural & Control Calculators

This VBA module supports bending moment calculations, ADC resolution, and gear force analysis.

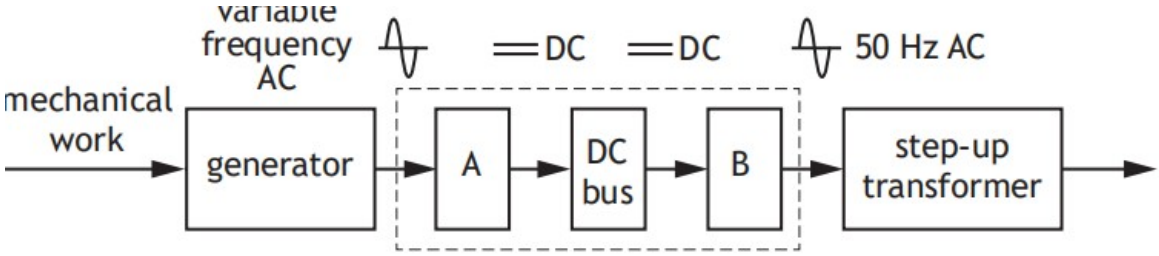
vb

```
' Module: AH_EngScience2023_Calculators
' Purpose: Support structural and control system calculations for Q7–Q9

Option Explicit

' Calculate maximum permissible bending moment
Function MaxBendingMoment(stress As Double, Ixx As Double, y As Double,
safetyFactor As Double) As Double
    ' M = (σ × I) / y × (1 / safetyFactor)
    MaxBendingMoment = (stress * Ixx / y) / safetyFactor
End Function

' Calculate span from bending moment
Function MaxSpan(M As Double, w As Double) As Double
    ' M = (w × L²) / 8 → L = sqrt(8M / w)
    MaxSpan = Sqr((8 * M) / w)
End Function

' Calculate ADC resolution and digital value
Function ADCResolution(bits As Integer, peakVoltage As Double) As Double
    ADCResolution = (peakVoltage * 1000) / (2 ^ bits)
End Function

Function ADCValue(inputVoltage As Double, peakVoltage As Double, bits As
Integer) As Integer
    ADCValue = Int((inputVoltage / peakVoltage) * (2 ^ bits - 1))
End Function

' Calculate tangential and radial gear forces
Function GearForces(powerWatts As Double, rpm As Double, radius_mm As Double,
pressureAngle_deg As Double) As String
    Dim omega As Double, torque As Double, Ft As Double, Fr As Double
    omega = (2 * WorksheetFunction.Pi() * rpm) / 60
    torque = powerWatts / omega
    Ft = torque / (radius_mm / 1000)
    Fr = Ft * Tan(pressureAngle_deg * WorksheetFunction.Pi() / 180)
    GearForces = "Tangential: " & Format(Ft, "0.00") & " N, Radial: " &
Format(Fr, "0.00") & " N"
End Function
```

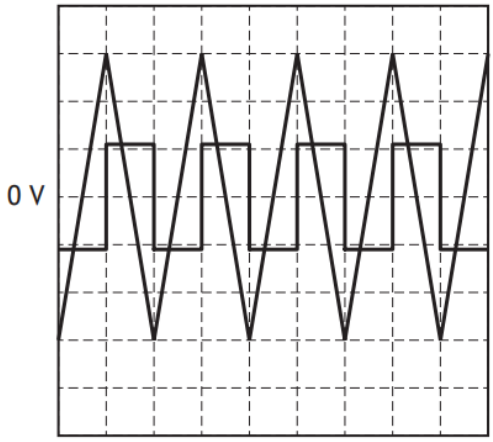


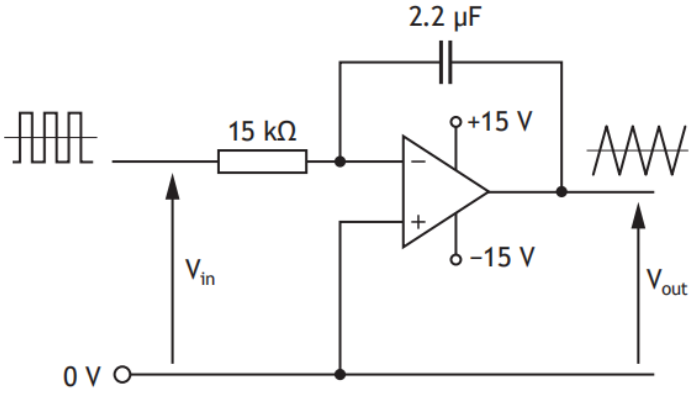
(a) Explain the need for step-up transformers at power stations. 2

(b) Give an example of a form of power generation that would be suited to supplying base load but not responding to peak load and explain why this would be the case. 2



Name the sub-systems A and B and, for each, describe its function within the system.



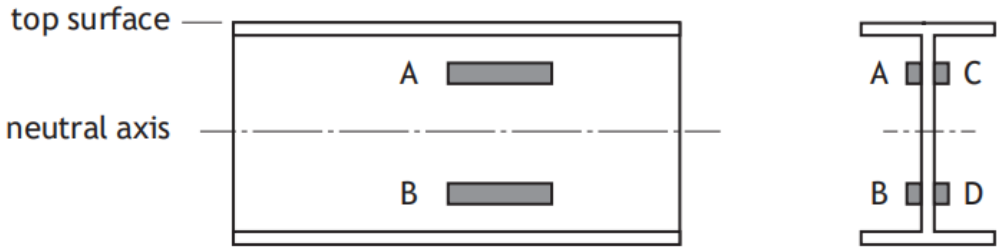


The student uses a ±3.3 V square wave with a mark-space ratio of 1:1.

(a) Write an expression for the change in the output voltage, V_{out}, in its simplest form while the input is +3.3 V. Assume that the output reaches +9.0 V as the square wave switches from −3.3 V to +3.3 V at t = 0 s. **2**

(b) Calculate the time that it would take for the output to change by 18 V. **2**

(c) Describe the effect on the output voltage, V_{out}, of using a 22 µF capacitor instead of the 2.2 µF capacitor. **1**

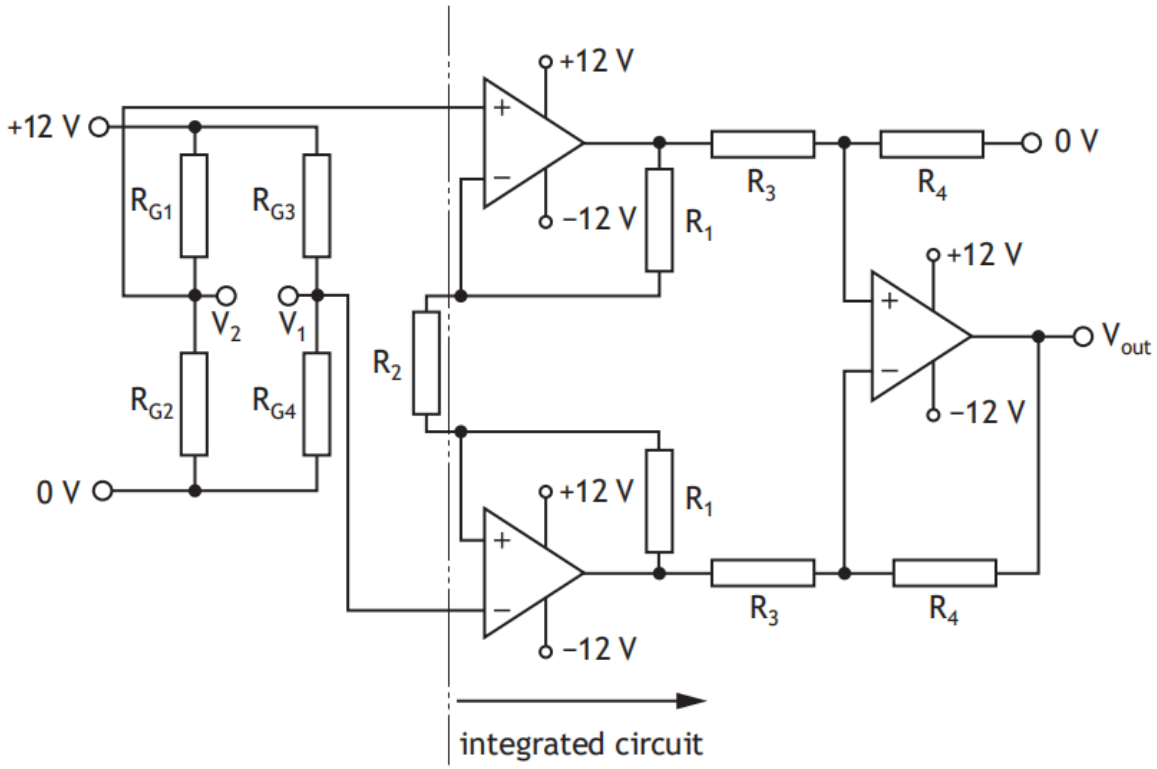


uges A and B are equidistant from the neutral axis of the beam.

uge C is aligned with gauge A and gauge D is aligned with gauge B.

e resistance of a strain gauge changes in proportion to the strain it is subject to. A te ain produces an increase in resistance and a compressive strain produces a decrease istance.

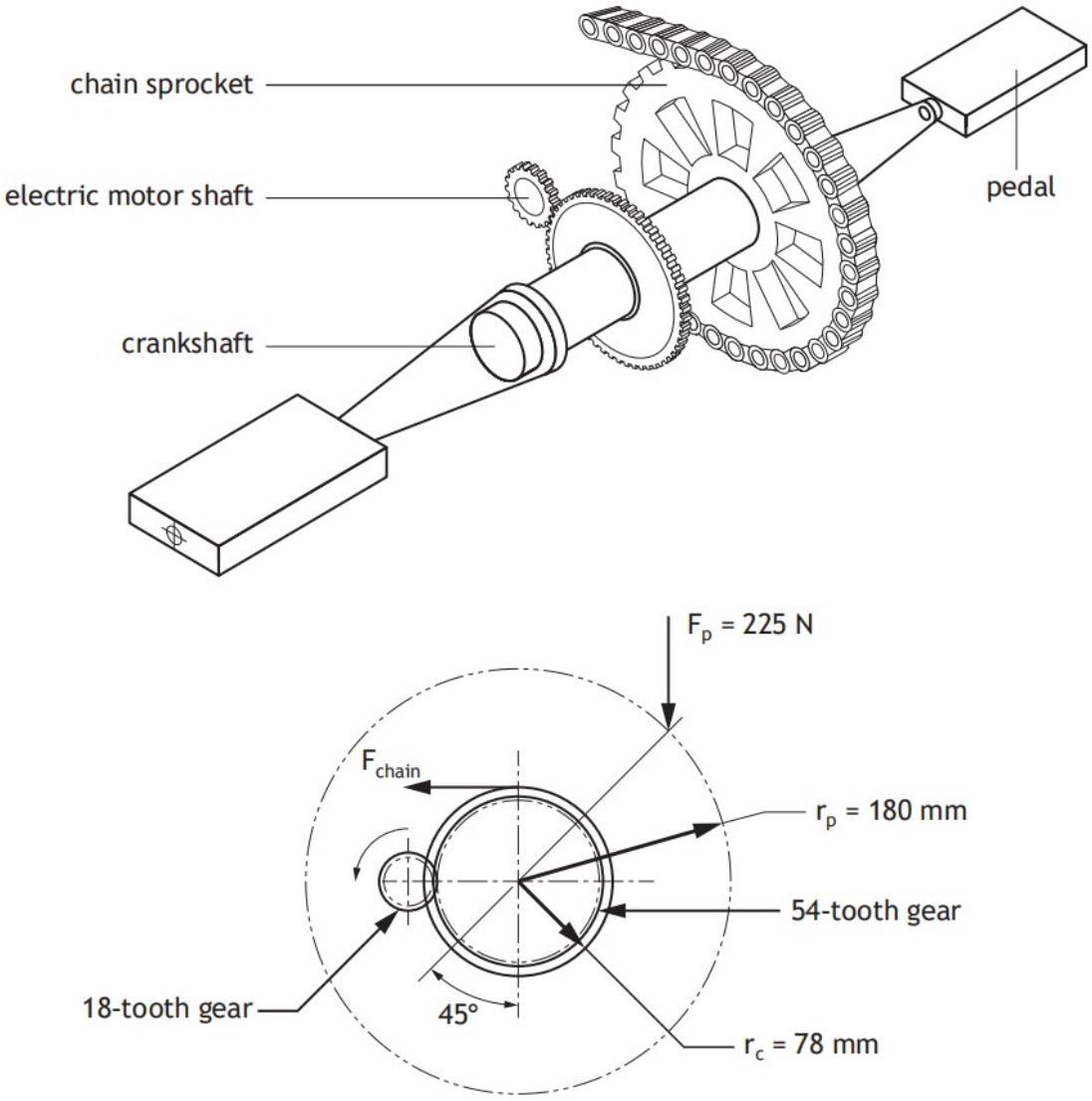
e circuit below is used to produce a signal from the strain gauges.



e output voltage is given by the formula:

$$V_{out} = \left(1 + \frac{2R_1}{R_2}\right)\frac{R_4}{R_3}(V_2 - V_1)$$

9. The electric motor on an e-bike is used to supplement the power the rider supplies when pedalling. The force applied to the pedals rotates the crankshaft which drives the main sprocket for the chain drive.



At the instant shown in the diagram above, the crankshaft is turning at a constant rotational speed of 42 revs min^{-1}. The motor is connected to the crankshaft via meshed gears. The driving gear on the motor has 18 teeth and a pitch circle diameter of 45 mm, while the driven gear has 54 teeth and a pitch circle diameter of 135 mm. The gears have a pressure angle of 20.0°. The gears transmit 235 W of power from the motor to the crankshaft.

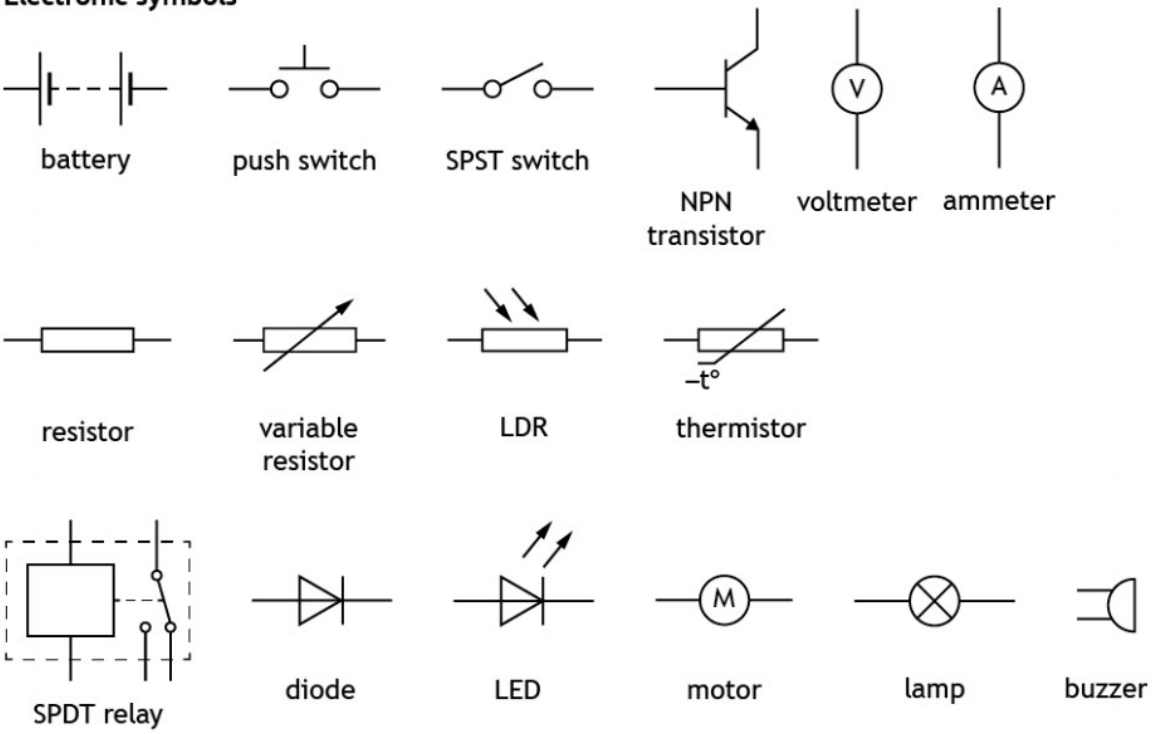
(a) Calculate the tangential and radial components of force on the 54-tooth gear at the mesh.

At the same instant, the rider applies a downwards force on the pedal, F_p, of 225 N. The effective radii of the pedal crank, r_p, and the chain sprocket, r_c, are 180 mm and

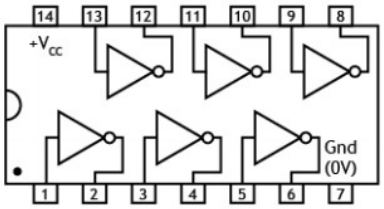
Data sheets — Leisure pool complex

You can use these data sheets and SQA's National 5 Engineering Science data booklet when completing this assignment. **No other resource material is permitted.**

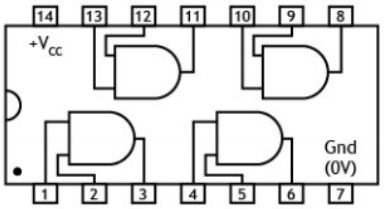
Electronic symbols



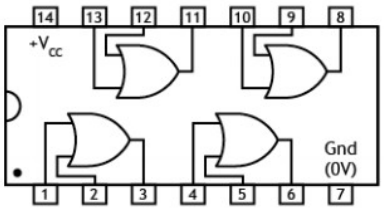
IC pinout diagrams



7404 hex inverter (NOT gates)

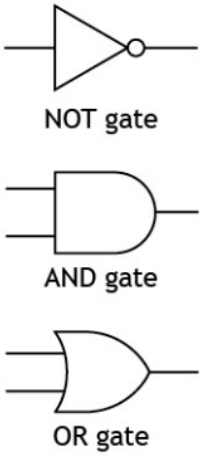


7408 quad 2 input AND gates



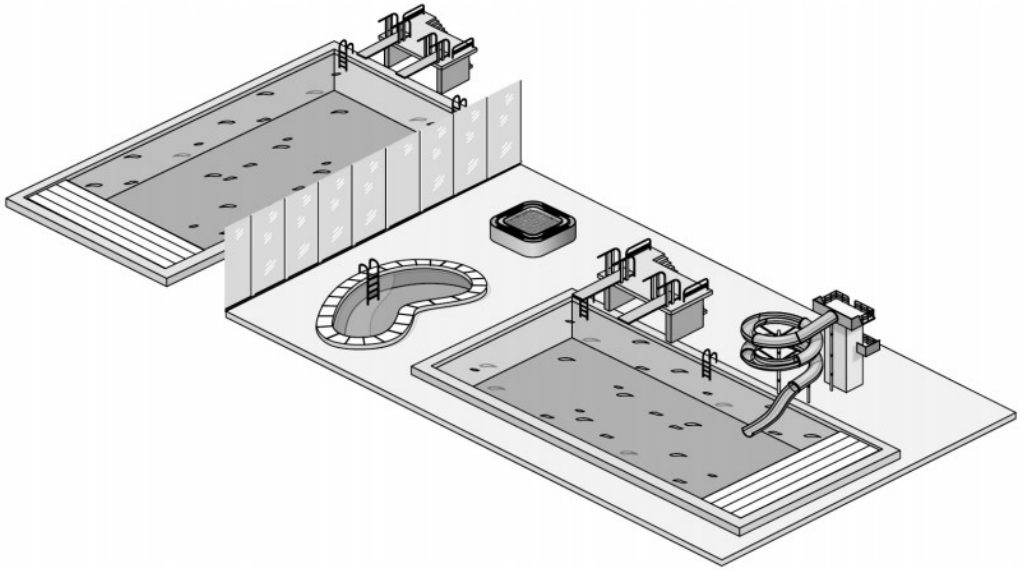
7432 quad 2 input OR gates

Logic gates

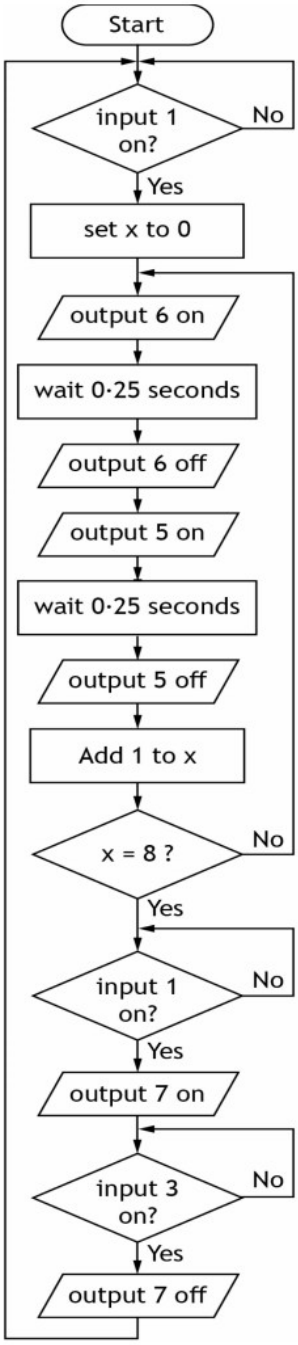


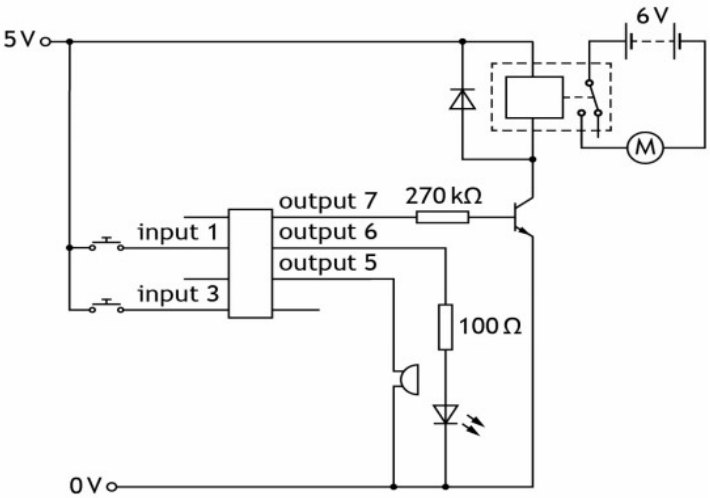
These tasks include developing proposals for the following:

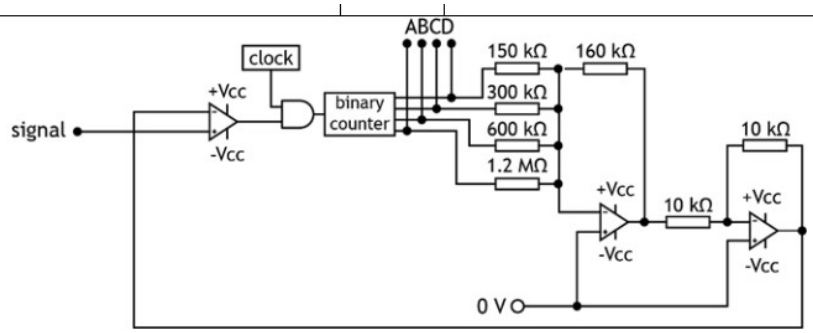
- Task 1 – pool heating
- Task 2 – flume
- Task 3 – motorised cover
- Task 4 – hot tub
- Task 5 – pool floor control



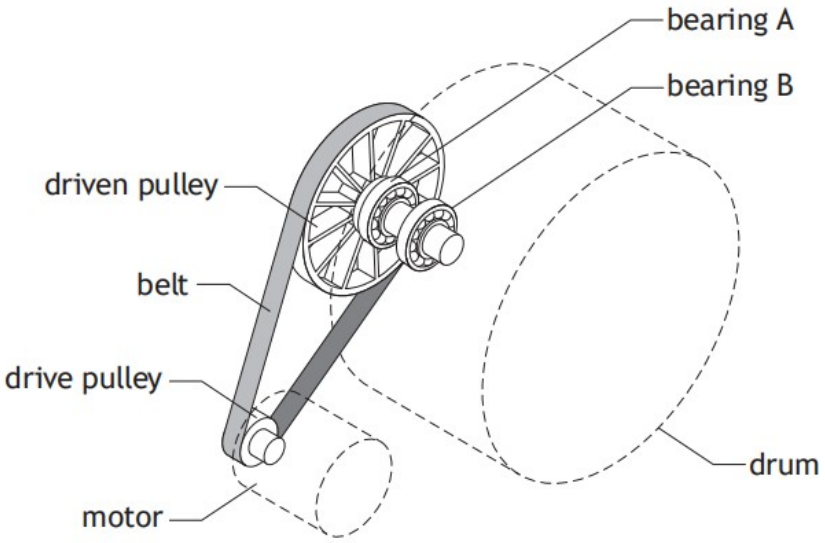
(5 marks)


Start
input 1 on?
No
Yes
set x to 0
output 6 on
wait 0·25 seconds
output 6 off
output 5 on
wait 0·25 seconds
output 5 off
Add 1 to x
x = 8 ?
No
Yes
input 1 on?
No
Yes
output 7 on
input 3 on?
No
Yes
output 7 off

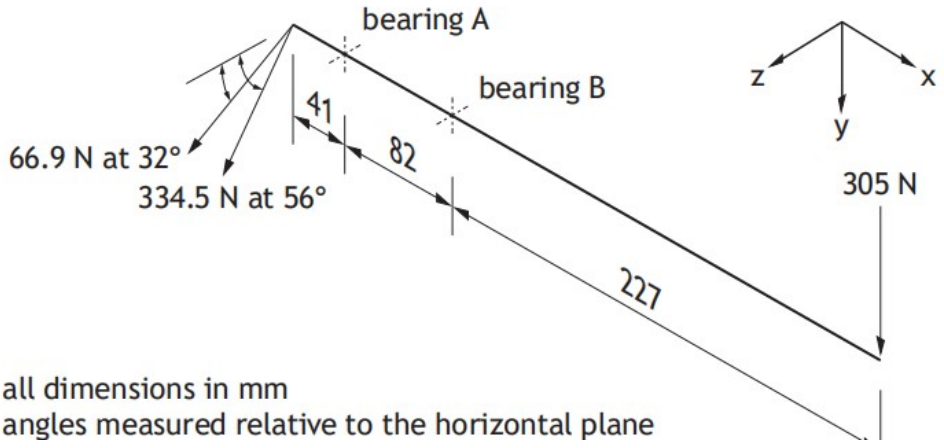

5 V
6 V
M
output 7
270 kΩ
input 1
output 6
output 5
input 3
100 Ω
0 V

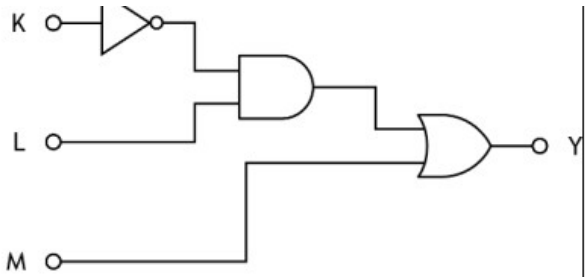

ABCD
clock
150 kΩ
160 kΩ
+Vcc
300 kΩ
signal
binary
counter
600 kΩ
10 kΩ
-Vcc
1.2 MΩ
+Vcc
10 kΩ
+Vcc
-Vcc
-Vcc
0 V

An electric motor rotates the drum in either direction via a belt drive, as shown below.

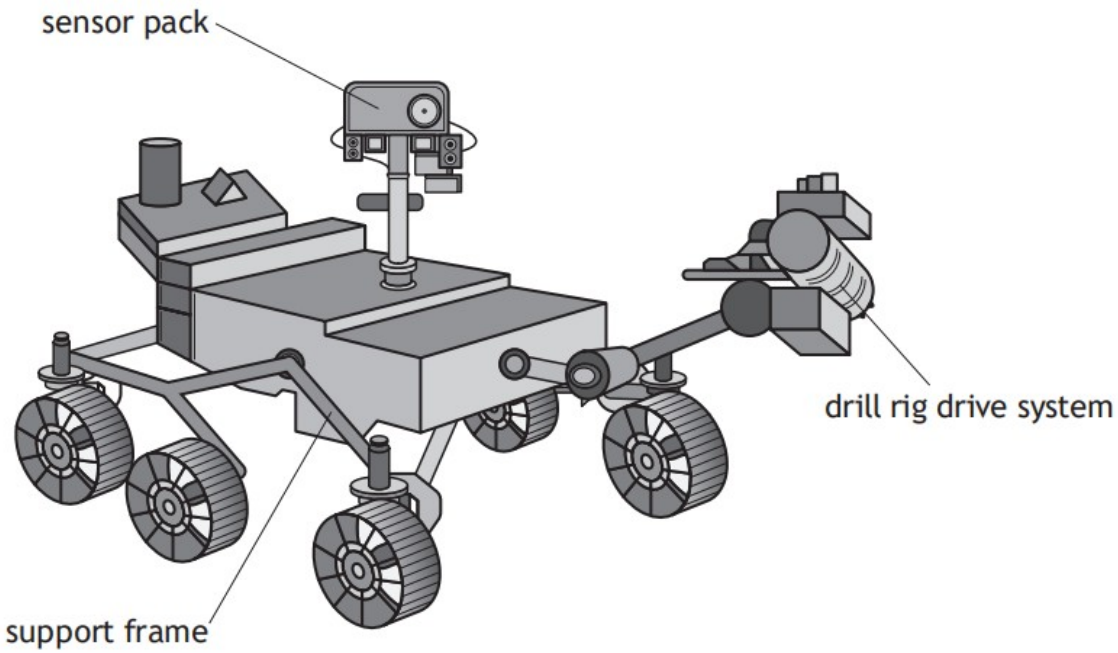


The diagram below shows the external forces acting on the shaft that connects the driven pulley to the drum. The two forces at the left-hand end represent the tensions in the belt when running and the vertical force at the right-hand end represents the weight of the drum when fully-loaded.



		3	1 mark - NOT gate with input connection. 1 mark - AND gate with both inp connections. 1 mark – OR gate with both inpu the output connections.
	$P = \frac{V^2}{R}$ $P = \frac{5.0^2}{470}$ P = 0.05319148936	2	1 mark for substitution. 1 mark for correct answer from

A rover used to collect rock samples on Mars is shown.



Several different engineers were involved in the design of the rover.

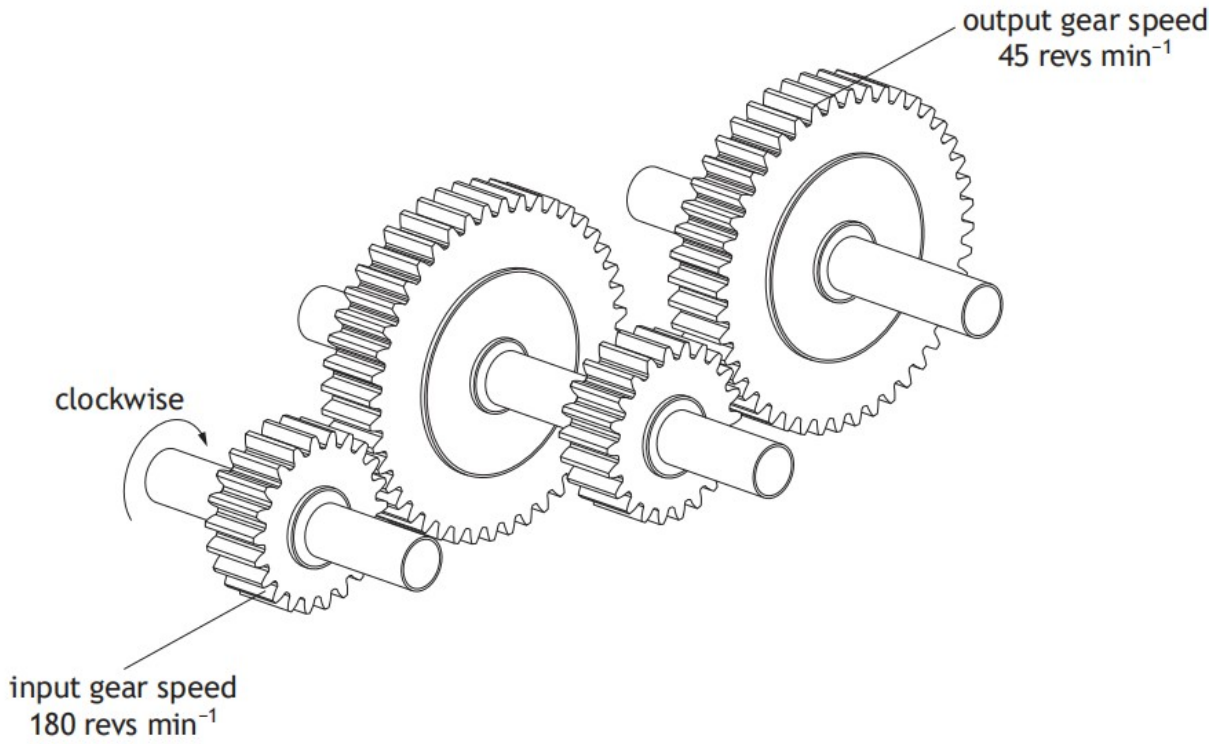
State which branch of engineering would be responsible for the design of the:

(a) support frame

_____

(b) sensor pack

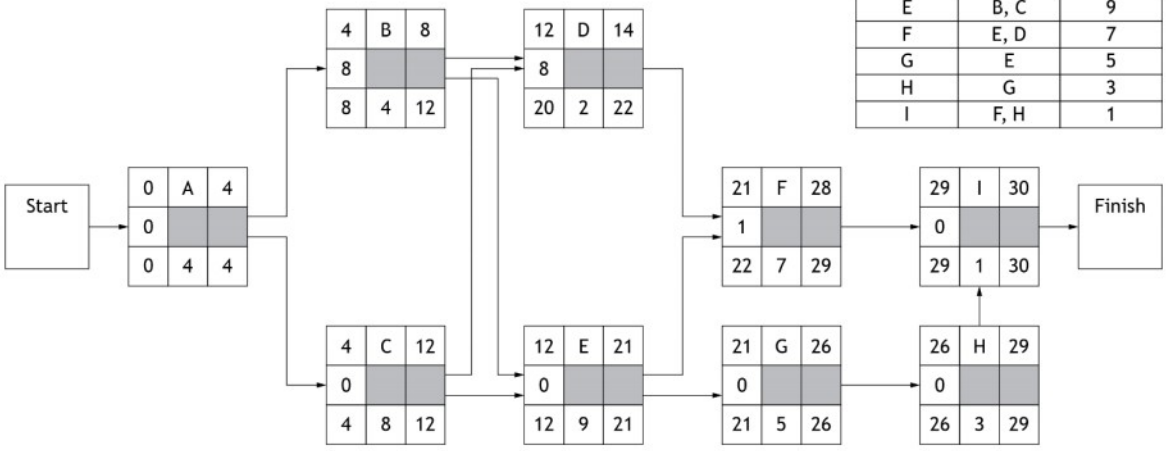
4. A gear train is shown.



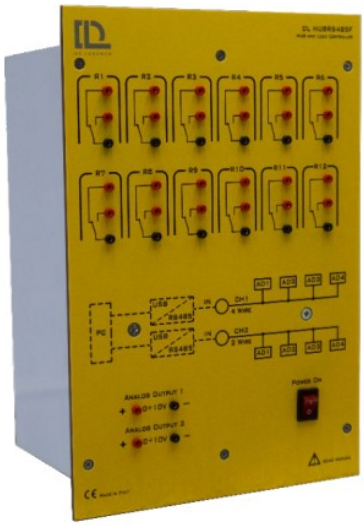
(a) State the name of this type of gear train.

Question			Expected response	Max mark	Additional guidance
.	(a)	(i)		1	Precedence arrows completed correctly.

Stage	Precedent	Time
A		4
B	A	4
C	A	8
D	B, C	2
E	B, C	9
F	E, D	7
G	E	5
H	G	3
I	F, H	1



		(ii)		3	**1 mark** Latest finish times for each activity correct. **1 mark** Latest start times for each activity correct. **1 mark** Float for each activity correct. Credit must be given for follow through errors for the second and third marks.
		(iii)	A, C, E, G, H, I	1	Path selected follows zero floats, which have been sensibly added for third mark in (a) (ii).



HUB di comunicazione Modbus e controllore di carico

Modulo RS485 HUB che permette il collegamento seriale dei moduli di misura e degli attuatori del laboratorio per la comunicazione e il controllo tramite PC.

Include:

- 1 bus di comunicazione RS485 a 4 fili con un ingresso RS485 e quattro uscite RS485.
- 1 bus di comunicazione RS485 a 2 fili con un ingresso RS485 e quattro uscite RS485.
- 2 uscite analogiche: 0 ÷ 10V, controllabili tramite Modbus RTU.
- Dodici uscite a relè: 1NO/1NC, controllabili tramite Modbus RTU.
- Un interruttore di on/off.
- Alimentazione: 100-240 Vac 50/60Hz.

Modbus communication HUB and load controller

RS485 HUB module that allows the serial connection of the measurement modules and actuators of the laboratory for communication and control via PC.

It includes:

- 1 RS485 4 Wire communication bus with one RS485 input and four RS485 outputs.
- 1 RS485 2 Wire communication bus with one RS485 input and four RS485 outputs.
- 2 Analog outputs: 0 ÷ 10V, controllable via Modbus RTU.
- 12 relay outputs: 1NO/1NC, controllable via Modbus RTU.
- One switch for power on/off.
- Power supply: 100-240 Vac 50/60Hz.

DE LORENZO

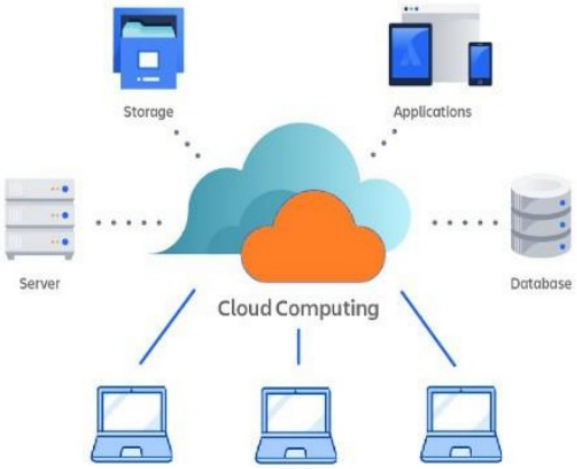
DL NGL

NEXT GENERATION LABS

The Cloud Computing paradigm is gaining more and more ground in corporate IT innovation, as it allows renting processing resources "on demand", without the need to manage the necessary machines (servers) on site, reducing maintenance costs (breakage of hardware components, addition of processing resources such as CPU, RAM or mass memory) and allowing a use of resources suited to the application they must support.

Further advantages are the possibility of increasing resources the instant they are needed (e.g., due to a sudden increase in the workload generated by a traffic burst) and being able to reduce them the instant they are no longer needed, ensuring cost savings.

This "abstraction" of cloud computing also makes it possible not to have to keep the physical machines directly on site, reducing the times in which the application is offline due to failures of the infrastructure or of the machines themselves.



The Module allows configuring and using a private Cloud Computing system within the Laboratory.

It consists of a Server equipped with all the necessary software components:

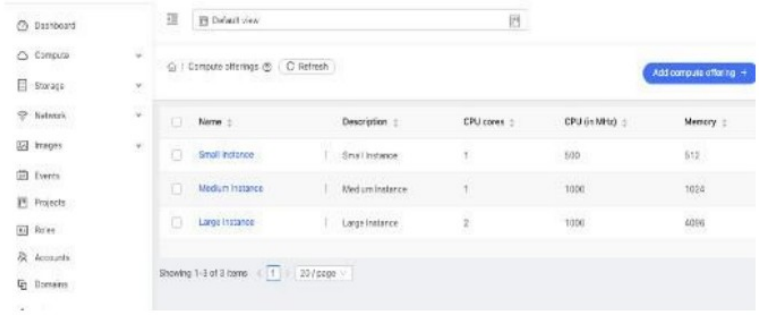
- Preconfigured physical server
- Physical hardware
- Ubuntu Operating System
- Apache CloudStack cloud computing platform and its software requirements
- Open Office, MySQL Database

The resources of this server can be accessed autonomously from the laboratory workstations, using a browser (e.g., Google Chrome) to connect to the Apache CloudStack web interface.

There is also a command prompt with SSH connection capability: Putty for Windows environment.

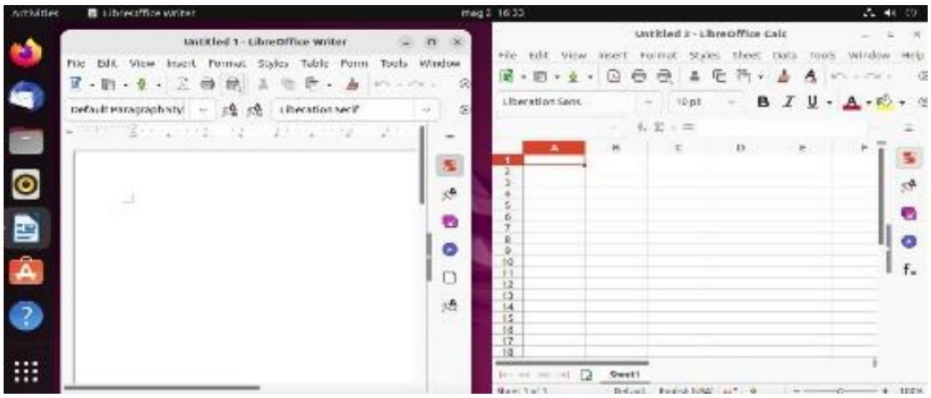
This solution of implementing a physical Server inside the Laboratory, instead of using Servers available online on the Internet with their Cloud Computing services, certainly has positive aspects both in terms of

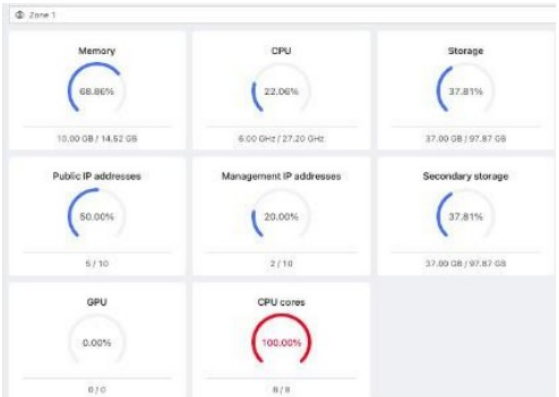
CloudStack allows configuring Virtual Machines, which reside on the Server, but which are used by Remote Users. For each machine you can set resources such as: number of cores, memory, disk space, etc.



The activity of all Virtual Machines is controlled on the server, in real time, using the appropriate CloudStack tools.

Once users of the system have connected to one of the Virtual Machines, they can work on them as if they were computers on their workstation. It works with the Ubuntu Operating System and with all its individual productivity tools: Editor, Spreadsheet, database, etc.


Activities
LibreOffice Writer
Untitled 1 - LibreOffice Writer
File Edit View Insert Format Styles Table Form Tools Window
Default Paragraph Style
Liberation Serif
Untitled 2 - LibreOffice Calc
File Edit View Insert Format Styles Sheet Data Tools Window Help
Liberation Sans
10 pt
Sheet1



Educational experience

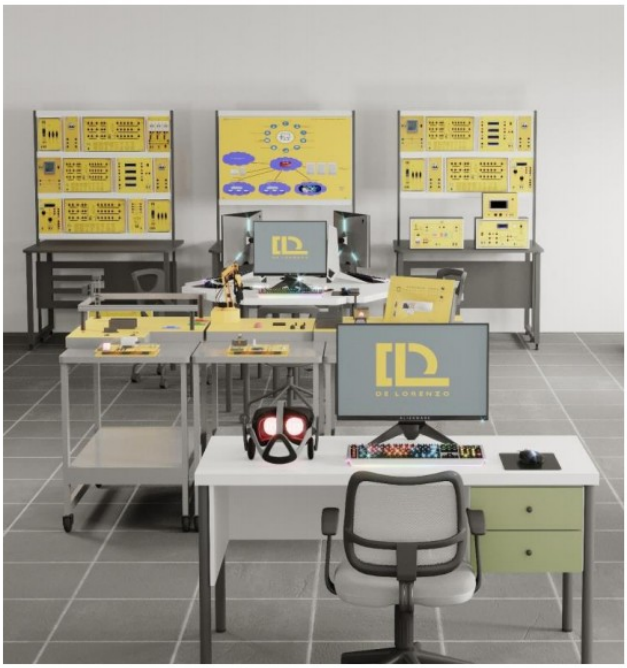
- Introduction to Cloud Computing
- Types: IaaS, PaaS, SaaS, XaaS
- Cloud Services
- Storage, security, analysis services
- Setting up virtual machines
- Using virtual machines
- Examples and applications

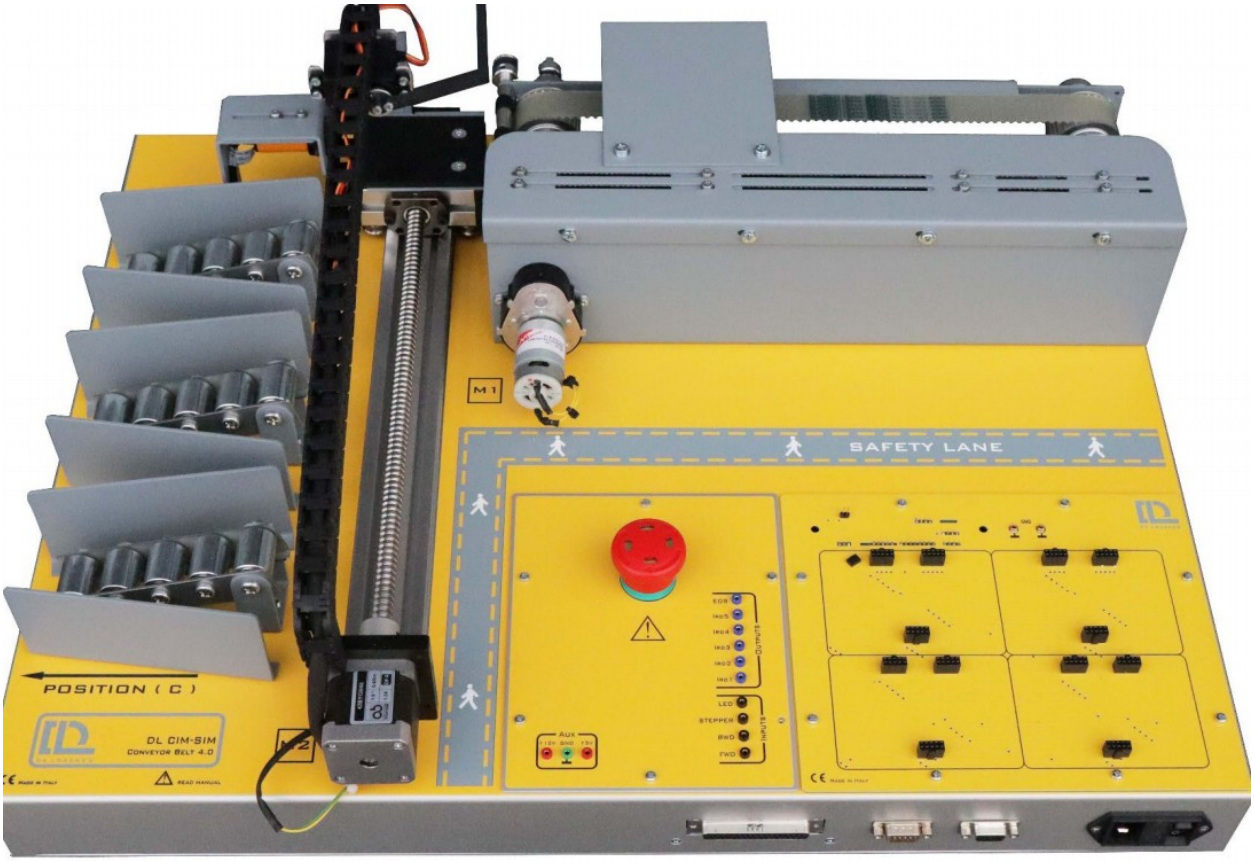
NEXT GENERATION LABS

The DL NGL-CLOUD module can be integrated in the NEXT GENERATION LAB - DL NGL laboratory through the minimum purchase of the following modules:

- **Teacher Station - DL NGL-BASE**
  Necessary for the proper functioning of the laboratory. Quantity: 1.

- **Student Station - DL NGL-STUDENT**
  To be multiplied by the number of "student stations" to be created.





DL NGL-CIMSIM

Module for the study of a conveyor belt

Description of the System:

KIT OF BOARDS

EDUCATIONAL EXPERIENCES

Kit composed of sub-boards for the preparatory study of the different elements that make up a system of conveyor belts. The sub-boards can interact with each other through a dedicated motherboard, allowing the student to perform interactive practices on different topics related to automation such as:

- Control of an LCD display via a microcontroller.
- Detection of an object using an infrared sensor.
- Monitoring of an RGB sensor.
- Control of a DC motor through a power driver.
- Control of a stepper motor.
- Action control and interlock function via a push button pad.
- Writing on a seven-segment display.

CIRCUIT BLOCKS

- Motherboard
- LCD display sub-board
- DC motor driver sub-board
- DC motor sub-board
- Inputs sub-board
- Seven-segment display sub-board
- Stepper motor with driver sub-board
- IRD sensor sub-board
- RGB sensor sub-board
- Microcontroller sub-board

HARDWARE SIMULATOR

EDUCATIONAL EXPERIENCE

This system is mainly used to teach, demonstrate and experiment with different methods of controlling a conveyor belt.

The student will improve the skills necessary for the HW designing and SW programming of an electromechanical system.

A real PLC (supplied with the trainer) controls the sequential operation of the system, as in real automated processes, allowing the development, implementation and optimization of an application in the industrial field:

- Control of a conveyor belt through a pushbutton panel.
- Use of a PLC to control the movement of the conveyor belt.
- Monitoring and identification of a processed part on the conveyor belt.
- Tracking of the position of a part placed on the conveyor belt.
- Identification and check of the color of a part.
- Identification of a defective part and placing it in the correct position at the end of the line.

The system interfaces with the SCADA software for monitoring and control.

TECHNICAL CHARACTERISTICS

- Power supply: 90V-230V ±10%, 50/60Hz
- DC motor that drives the belt:
  - Speed: 10 rpm
  - Rated voltage: 12 Vdc
- Linear actuator of the stepper motor:
  - Rated voltage: 12 Vdc
- Servo motor:
  - Rated voltage: 5 Vdc
- Control panel:
  - Motor drivers
  - Inputs and outputs of sensors and actuators accessible via 2 mm connectors.
  - Slot for inserting the system boards.
  - Compatible with Arduino UNO boards:
    - ATMEGA328 processor
    - 32KB flash memory
    - 1KB EEPROM memory
    - 2KB SRAM memory
    - 23 generic I/O ports
- IR position sensor
- RGB sensor
- RFID detector

ACCESSORY INCLUDED:

DL 2110AM

Programmable Logic Controller 12/10
Type of module: frame or bench type
PLC inputs:

- 8 digital inputs
- 4 digital/analogue inputs

PLC outputs:

- 8 relay outputs
- 2 analogue outputs (V / I selectable outputs)

Two 0-10 V outputs are adjustable through potentiometer.
12 digital level switches
8 LED for the visualization of the output states
Output in 24 V_{DC} fixed voltage
Programmable via USB port
Communication: Modbus RTU RS485

NECESSARY ACCESSORY:

DL 2555ALG

DC power supply

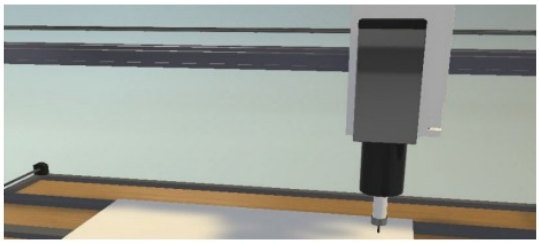
- ± 5 Vdc, 1 A
- ±15 Vdc, 1 A

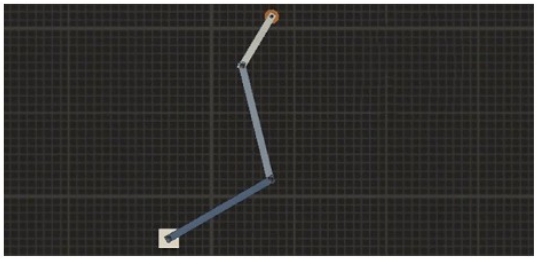
Artificial intelligence is a discipline that studies whether and how intelligent computer systems capable of simulating the ability and behaviour of human thought can be created.

It belongs to computer science, which studies the theoretical foundations, methodologies and techniques that allow the design of hardware and software systems capable of providing the computer with performances that would appear to be the exclusive pertinence of human intelligence.

The 'Artificial Intelligence' Module adds to the Basic Module the tools for studying and learning about topics related to AI.

It is composed of a software that has been developed to teach artificial intelligence clearly and effectively. With this software, students can enhance their individual experience in the practical study of this new discipline.

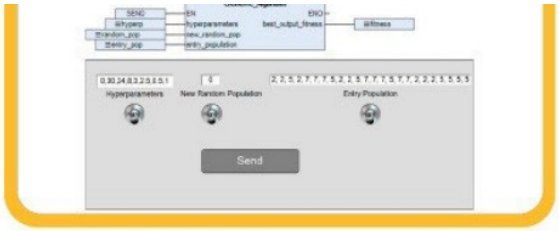




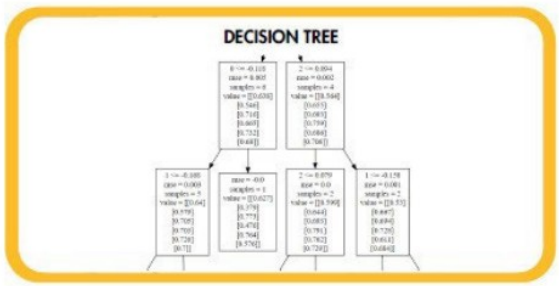
Teachers can offer students experiments on the following topics:

- Optimization: Using the genetic algorithm to solve optimization problems, such as the time problem or the cost problem.
- Classification: Using neural networks to solve classification problems.
- Reinforcement Learning: Using reinforcement learning to train a robot to reach a specific location.
- Regression: Comparing the performance of decision tree and neural network algorithms in system modelling and predictions.

e software contains simulations of industrial vironments in 3D and includes integrated jects with activities, instructions, contents d automatic validation.



projects have well-defined goals. They are ıctured in activities and each activity has cific requirements and provides students h instruction, content and guidance.



e software itself checks the student's solution each activity in real time and allows him to ve on to the next activity.

works integrated with an IDE (Integrated velopment Environment, i.e., a software that, the programming phase, supports grammers in the development and bugging of the source code of a program) hon.

XT GENERATION LABS

e DL NGL-AI module can be integrated the NEXT GENERATION LAB - DL NGL oratory through the minimum purchase he following modules:

Teacher Station - DL NGL-BASE
Necessary for the proper functioning of the laboratory. Quantity: 1.

Student Station - DL NGL-STUDENT
To be multiplied by the number of "student stations" to be created.

Didactic simulators for IoT

The MiniSims are small simulators designed for educational use in the study of Internet of Things (IoT) technology and its applications in various sectors, such as: Agri-food, energy, automotive, manufacturing, etc. computer, health, chemical and biotechnological.

They simulate, through an internal microcontroller, the operation of a computer, a plant, a system, etc., interacting with the student and generating all the information for the connection to the IoT, thus allowing to achieve one of the main objectives of this technology, what is to be seen or controlled by both other objects and network users.
A real IoT system is composed of objects (equipment, plants, systems, etc.), communication networks, servers and clients. An important feature of the MiniSims is to reproduce the entire IoT system on a single workstation, in an 'open' way, where the student can interact autonomously with the different parts of the system.

To use the MiniSims you need the IoT module, in particular, the DevIoT unit for the physical connection of the simulator to the cloud and the DL Workspace application that contains the servers and clients for the full operation of the system.
Experiments can be performed on a single computer, using all the tools of the DL Workspace software

The simulators are connected to the DevIoT unit that sends the information from the simulators to a cloud server. All cloud components are present on the PC.
A LAN connection is used between the DevIoT unit and the PC, in which the MQTT server of the DL Workspace is activated, which receives all the information from the simulators and saves it in a database.
The DL Workspace HTTP server is then used to provide database information to a "remote" user via a web in-terface. On a PC (or on any mobile device) simply using a browser and opening the HTTP server web page with real-time updated information about the state of the simulated plants.

The simulators available are as follows:

- DL MiniSim-ENE1: Domestic photovoltaic system with remote monitoring of operating parameters.
- DL MiniSim-CAR1: Connected car, remote monitoring and diagnosis.
- DL MiniSim-MAN1: Simulation and control of an intelligent factory.
- DL MiniSim-BIO1: Telemedicine, electrocardiogram with remote viewing.
- DL MiniSim-AGR1: Agri-food 4.0 in greenhouses.
- DL MiniSim-CHI1: Chemistry 4.0, remote monitoring of a chemical plant.

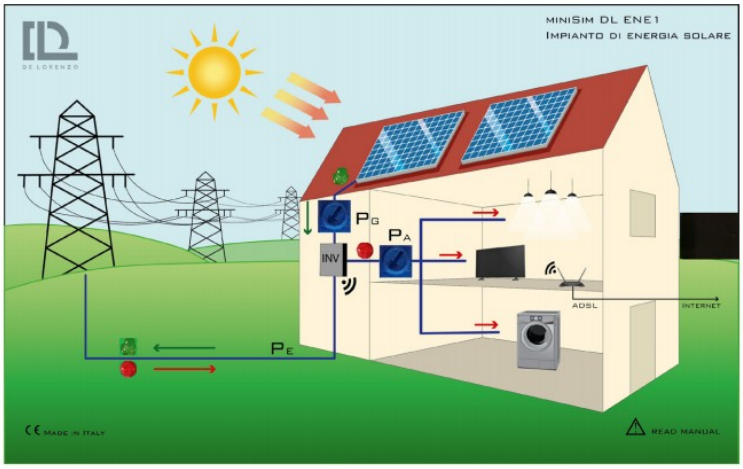
operating parameters

Electric power production systems using photovoltaic panels are increasingly used in the home.

Currently, most of them allow to monitor the system remotely using a PC or a mobile phone using IoT techniques.

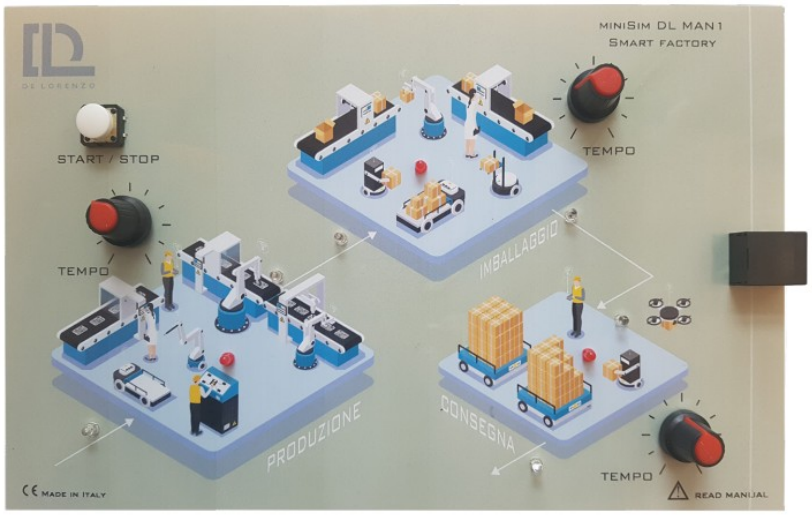
The control unit present in the house that uses a domestic connection to the internet sends the production and consumption data via the IoT protocol to a server installed anywhere in the world.

From anywhere else in the world, you can connect to this server and view the data using a simple web interface and HTTP protocol.



The simulator of the DL MiniSim-ENE1 solar system is used, which shows a screen print of the components of the domestic system, and allows to vary, through the potentiometer, the energy produced by the solar panels (to simulate different environmental conditions) and the energy absorbed by the domestic charges. The power absorbed or sent to the network operator is calculated with a subtraction.

three workstations (Slaves) and thus coordinates their operation.
In an intelligent factory that uses Internet of Things techniques, the 3 workstations are objects (things) that communicate their status to a server and receive information from the server relative to the status of the other stations, that is, they exchange the status between them.
Station 1 will inform when it is free to accept incoming materials, Station 2 will indicate that production is working, and Station 3 will give the availability of the outgoing product. In this way, each station is able to operate in coordination with the others without the need for superior control logic.



The DL MiniSim-MAN1 is used, which shows a screen print of the components of the complete system and shows the status of the different workstations through multi-colored LEDs.

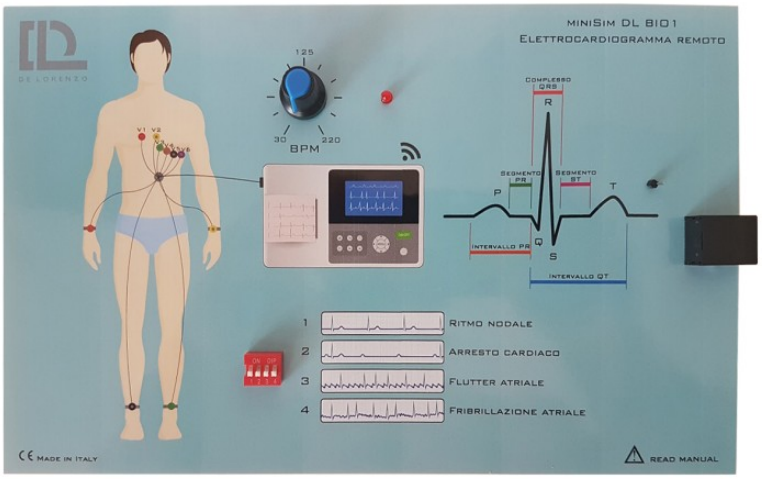
DL MiniSim-BIO1
Telemedicine, Electrocardiogram with Remote Display

Telemedicine is defined as a way of providing health services using innovative technologies, in particular Information and Communication Technologies (ICT), in situations where the healthcare professional and the patient (or two professionals) are not in the same place. Telemedicine involves the secure transmission of medical information and data in the form of texts, sounds, images or other forms necessary for the prevention, diagnosis, treatment and subsequent follow-up of patients.

Telemedicine services can be used with any diagnostic or therapy health service.
However, the provision of telemedicine does not replace the traditional provision of health care in the doctor-patient relationship, but complements it to potentially improve effectiveness, efficiency and adequacy.

The simulator shows a 'real' system in which a patient performs an electrocardiogram, and the doctor controls it in real time remotely.
On the DL MiniSim-BIO1, the ECG signal is generated continuously. A potentiometer allows you to vary the rate from 30 to 220 beats per minute.

It is possible to generate different types of ECGs (the waveform is generated by the microcontroller within the panel) and a dip switch on the panel allows you to select different ECGs with different pathologies.

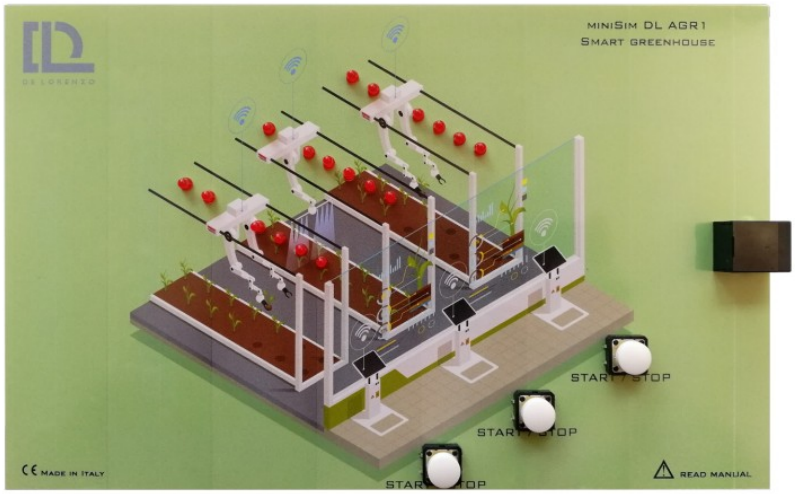


The DL MiniSim-BIO1 is used, which displays a screen print of the entire system components and generates a simulated voltage ECG signal.

Food Agriculture 4.0 in greenhouses

Food agriculture 4.0 aims to integrate digital technologies and agricultural production to achieve a reduction in energy consumption and resources used in the greenhouse and in the field.
Information technology, which allows remote monitoring of the environment and plants, can ensure favorable environmental conditions for the crop, leading to the objective of increasing the productivity and health of crops, also reducing the use of agrochemicals. In particular, Internet of Things (IoT) technologies together with new intelligent algorithms allow monitoring plant health remotely and coordinating phytosanitary and greenhouse energy management in an integrated manner, in order to optimize crop health and energy consumption.

The information derived from environmental, energy and agricultural monitoring exploits the transmission on the Internet, to be processed remotely from any point thanks to the development of new intelligent algorithms in order to visualize and implement control strategies.
The simulator shows a "real" 4.0 greenhouse system, with an automatic irrigation system, sensors to monitor the weather conditions and actuators to adjust the conditions themselves.



The DL MiniSim-AGR1 which shows a screen print of the components of the complete system, also contains:

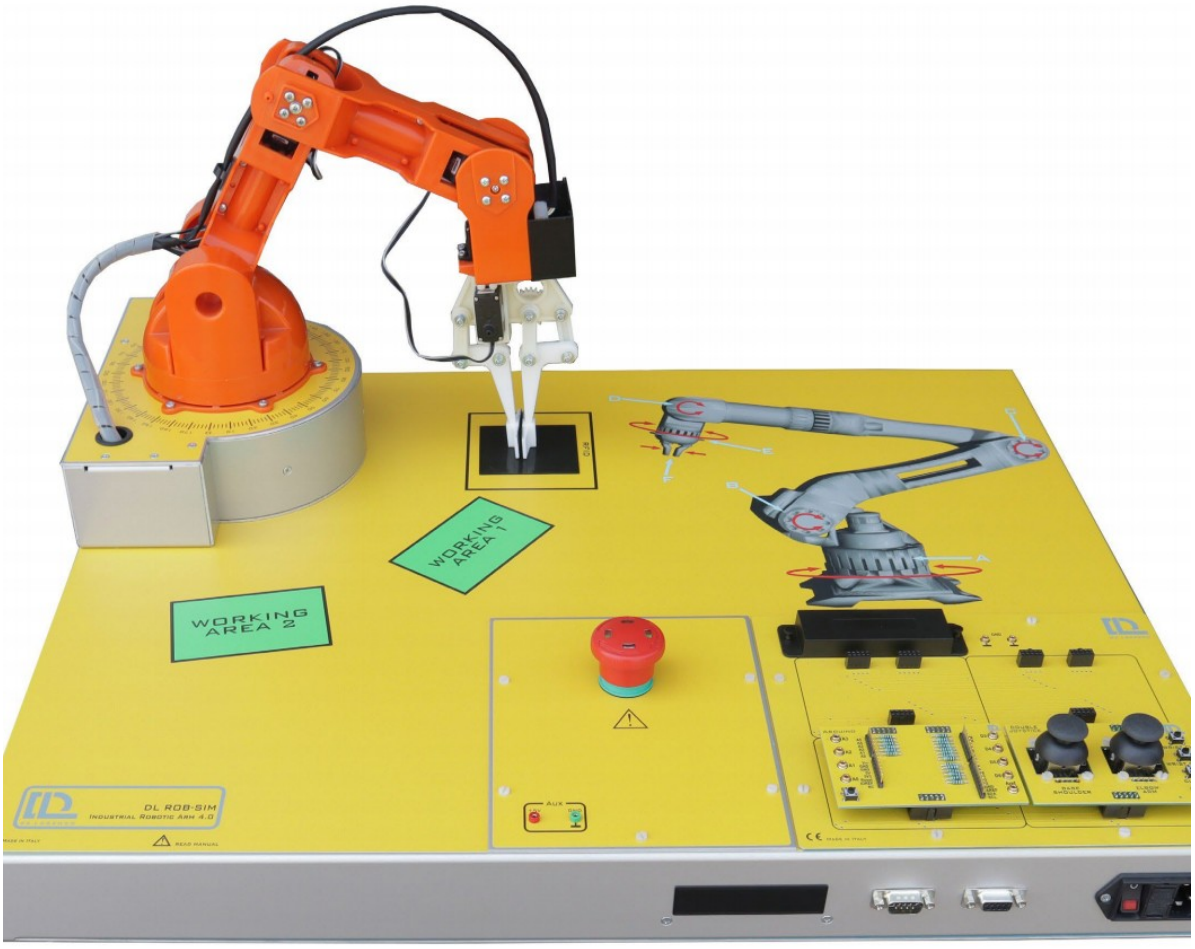
- A LED bar showing the position of the irrigation cart.
- A cart start/stop switch.
- The following DevIoT unit resources are also used:
- The actual temperature sensor with PT100 probe.
- The real DC motor for a simple remote temperature control.

It is possible to observe in real time the position of the irrigation cart and the temperature value and start or stop the irrigation cart and the fan motor.

DE LORENZO

DL NGL

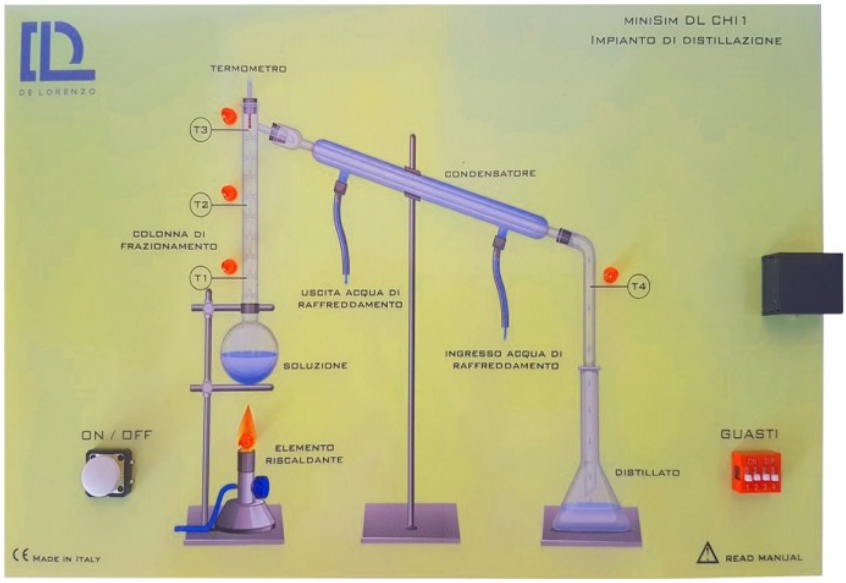
NEXT GENERATION LABS



DL NGL-ROBSIM

Module for the study of 5-axis robotic arm

The simulator shows a 'real' Industrial Distillation Chemical Plant, in its various components make it controllable and manageable remotely through IoT technologies.



DE LORENZO

DL NGL
NEXT GENERATION LABS

Laboratory for the digital professions of the future

DL NGL LAB

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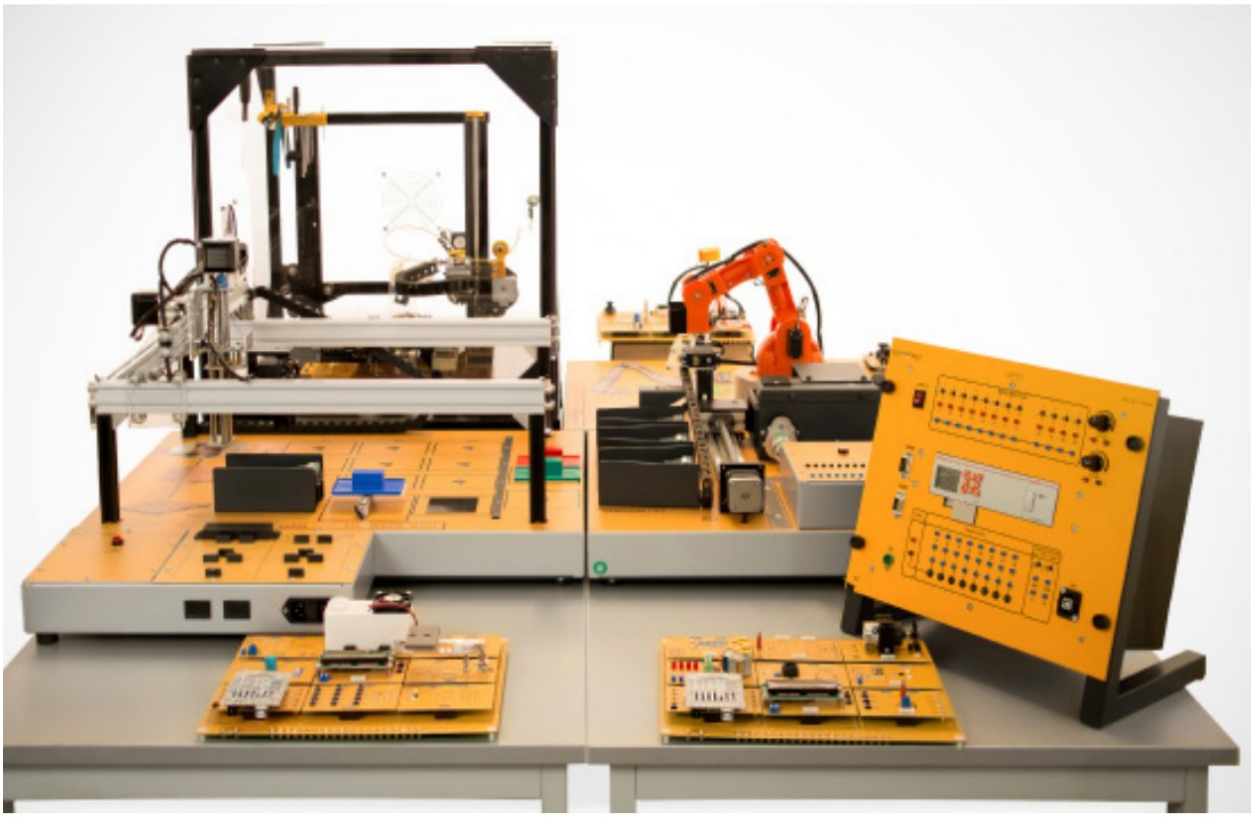
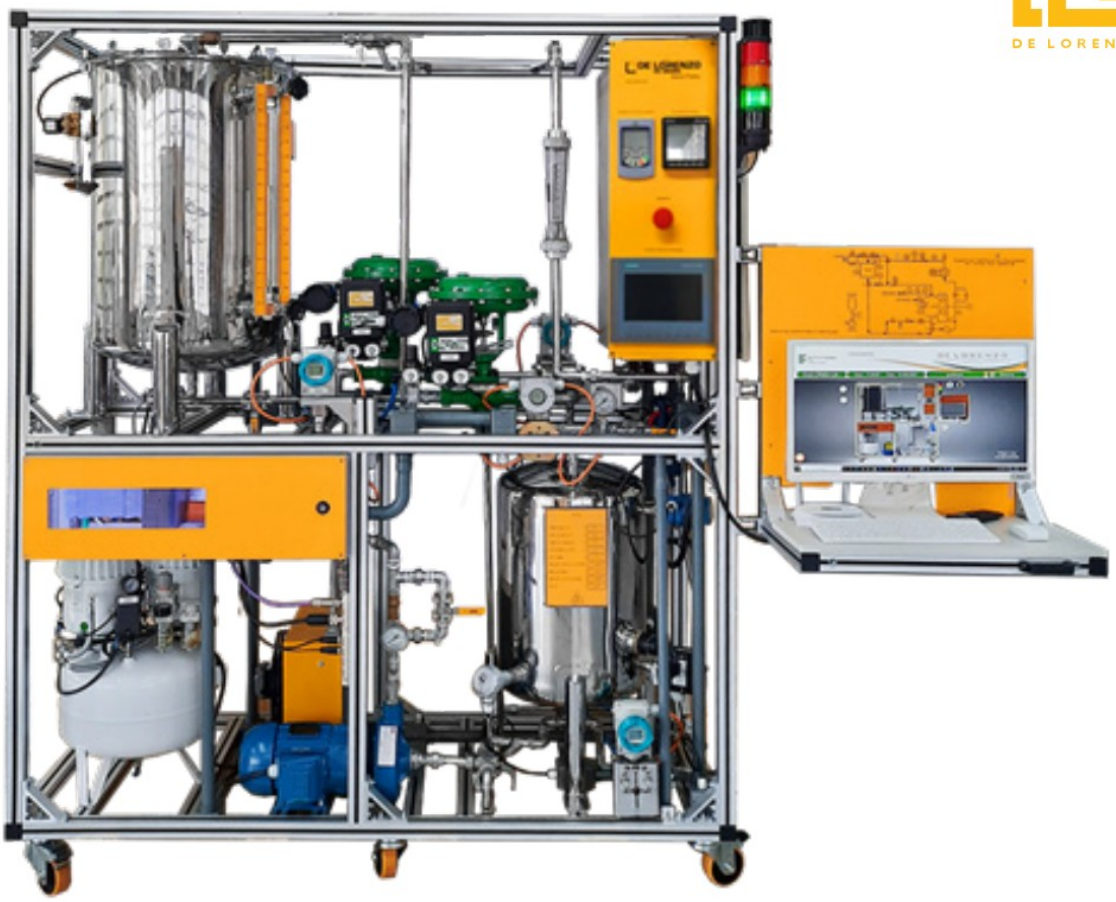
Digitalization in the industry

Digitalization is spreading in many areas, bringing new value in terms of efficiency, competitiveness, sustainability and showing ample room for growth. In terms of digital innovation in the industry, new digital technologies (Artificial Intelligence, Robotics, Internet of Things, Cloud, etc.) have brought great advances in the automation of production processes.
In the so-called "intelligent manufacturing", the presence of autonomous machines equipped with artificial intelligence assigned to the heaviest and most repetitive jobs, the connectivity and dialog between different devices and the centrality of the data, its collection, its analysis, and its use to make decisions, they bring to life a more efficient, safe, and competitive production site.

First, we talk about industrial robotics, one of the technologies most intuitively associated with intelligent manufacturing, and the automation of work, both in the productive sector and for some activities related to administrative work, capable of performing simple tasks such as information and data extraction, transmission and execution.

However, the ability of machines to communicate with each other by exchanging information through Internet of Things (IoT) technology and advanced sensors, with applications related to the monitoring of production flows, quality control and predictive maintenance of machinery is paramount.





Artificial intelligence techniques are also innovative, supporting numerous processes and multiple operations at companies.

Artificial intelligence techniques are also innovative, supporting numerous processes and multiple operations at companies.

The large amount of data collected by sensors of the machinery, as well as those generated by other devices present on the production site, must be analysed to extract values and make decisions accordingly, for example, in areas such as product development, marketing actions, the whole management area (logistics, customers and process optimization) and forecasting activities such as predictive maintenance and failure prediction. In this case, Big Data technology is key.
When it comes to the cloud, the entire manufacturing industry has learned how to use it to improve the efficiency of the entire production cycle. The ability to use cloud computing and storage services simplifies the digital processes of all companies.

Finally, other technologies also contribute to supporting intelligent manufacturing, including those based on 5G, additive manufacturing and 3D printing, virtual and augmented reality.

DIDACTIC EXPERIENCE

The laboratory has been designed to reconstruct internally, through devices, equipment and systems, hardware and software, the reality in which these new professions are being developed, in order to create real experiences on equipment, instruments and processes, as if the students were operating in a real-life job.
The laboratory aims to develop courses and skills in many technological areas.

ASSOCIATED COURSES

1. **Robotics and automation**
2. **Artificial Intelligence**
3. **Cloud computing**
4. **Cybersecurity**
5. **Internet of Things**
6. **Smart Greenhouse**
7. **Manufacture, modelling, and 3D printing**
8. **Virtual and augmented reality**
9. **Big data**
10. **Blockchain**
11. **E-commerce**
12. **Industry 4.0**

With applications in numerous economic sectors, such as: Agri-food, automotive, ICT, construction, energy, financial services, manufacturing, chemistry and biotechnology, transportation and logistics, green transition, public administration, health, professional services, tourism, and culture..

System feature

The laboratory has a modular structure that allows it to adapt to the different realities and needs of schools.

It consists of a **base module**, which contains the devices and tools to implement the Internet network and all its features, with **workstations for teachers and students,** and **thematic modules**, consisting of devices and / or application software, to achieve the objectives of developing specific competences in different sectors.

WORKSTATIONS

DL NGL-BASE: Teacher Station

Teacher Station

Composed of:

- Base module containing all network devices, with a block diagram illustrating the structure of the entire system, to implement the Internet network in which teachers and students work as if they were operating in real external reality.
- Windows PC with DL Workspace software.

DL NGL-STUDENT: Student station

Composed of:

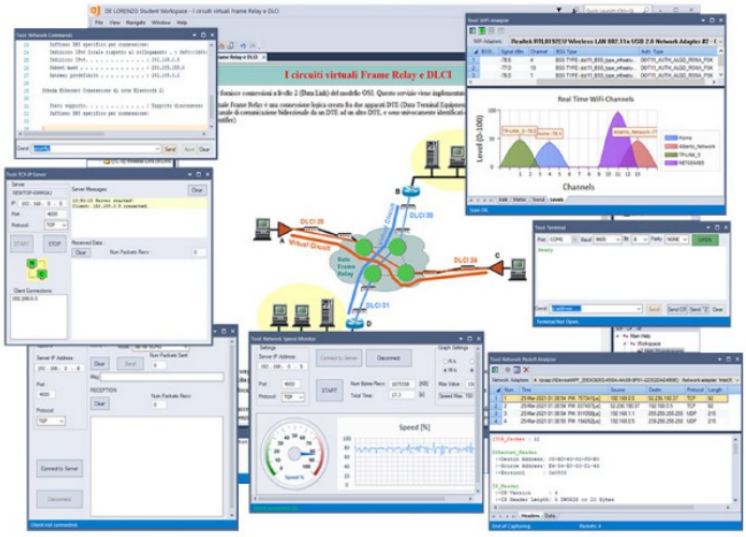
- Windows PC with DL Workspace software,

Students can work individually or in groups. Student stations are all connected to each other and to the teacher's station via the Internet.

At the hardware device level, 2 student networks have been created to halve the workload, as student stations connect via WiFi, but within the lab, it is possible to create workgroups among students without limitations.

The number of student stations is free. The school can decide how many stations to install in the lab.

DL WORKSPACE

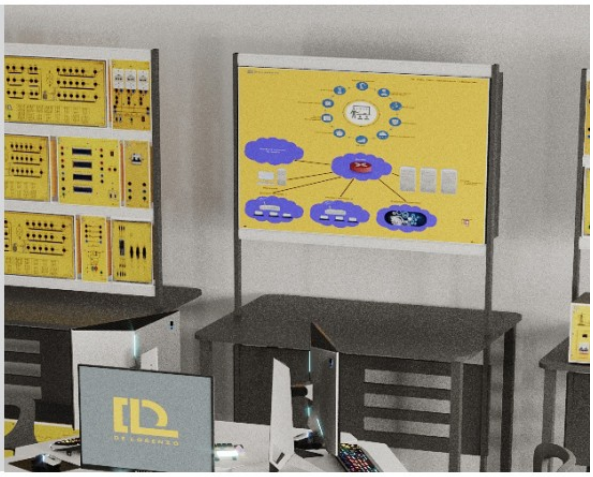


DL WORKSPACE software provides an integrated work environment in which all the tools for study and experimentation are placed, allowing you to:

- access the didactic material in PDF format.
- manage answers to lesson questions.
- perform experiments with Toolbox (Server, Client, Protocol Analyser, Wifi Analyser, etc.).

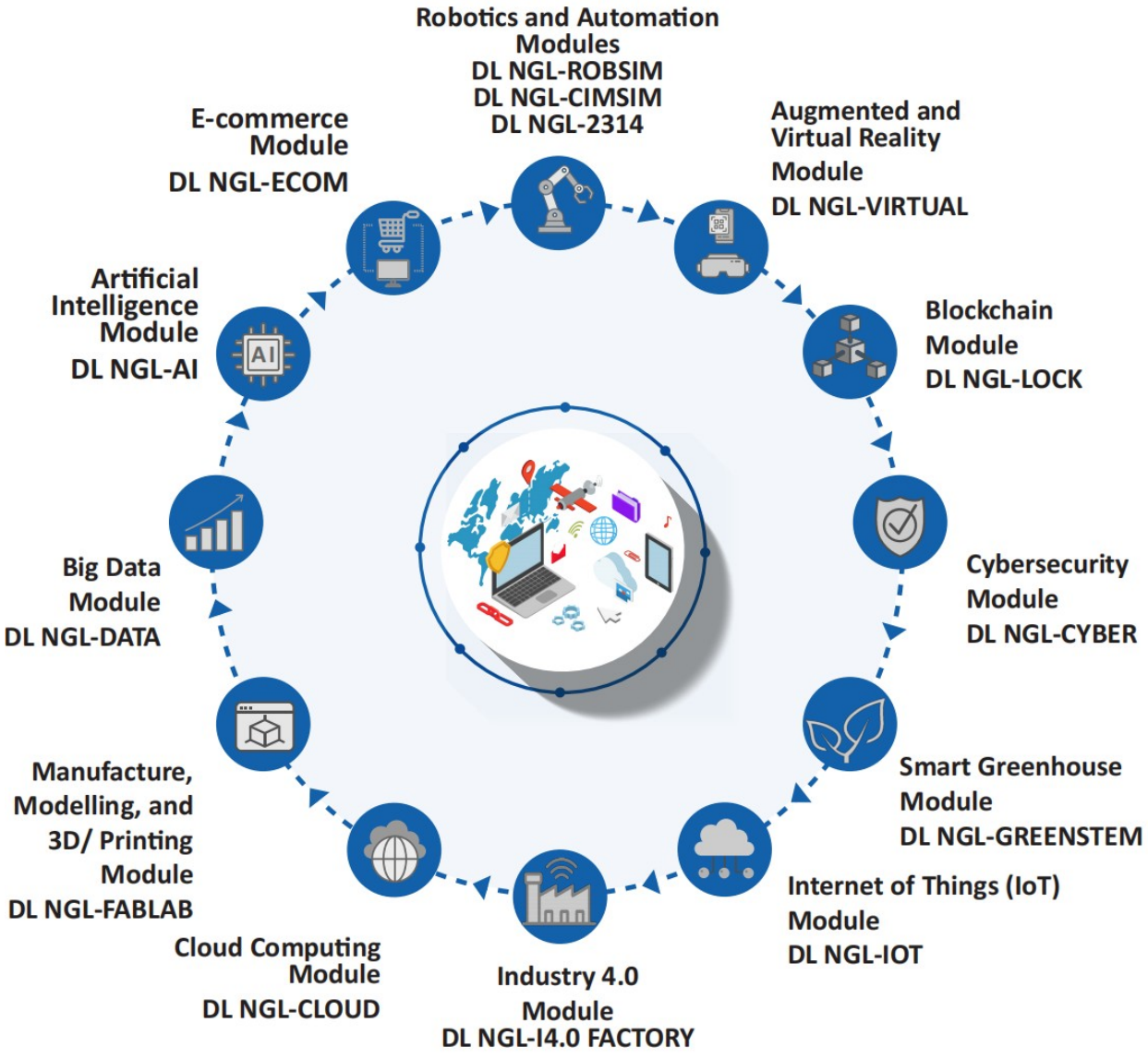
The software is used both by the teacher for teaching and by the students for learning. All student activity is stored in a local database for later reference by the teacher.

Regardless of the application used, it is always possible to carry out preliminary teaching experiences relating to the Internet and its services, such as: OSI model and communication protocols, LAN and WiFi networks, Client-Server model, World Wide Web (HTTP protocol), e-mail (SMTP protocol), file transfer (FTP protocol) and Domain Name System.



THEMATIC MODULES

The modularity of the system allows the thematic modules to coexist with each other within the laboratory without reciprocal limitations, allowing maximum flexibility of use.
While one student (or group) works, for example, on an IoT application, another group can work on the development of e-commerce applications and another on robotics or other applications.



Internet of Things (IoT) Module

DL NGL-IOT

It is used to study all the problems related to the world of the Internet of Things IoT, in which not only people, but also the most common objects can connect to a global network where they can be viewed and controlled by both other objects and network users.
There is no limitation to the type of object that can be connected, thus providing the Internet of Things with an unlimited space of applications: Industry, home automation, medicine, etc.

The module contains devices and tools to configure a complete IoT system where to carry out all exercises and experiments and consists of: Interface card (including a microcontroller, an LCD display, a keyboard and USB interfaces, Ethernet LAN, WiFi, for analog sensors, for digital sensors and actuators), analog sensors (temperature, pressure, force) and digital sensors (brightness, ultrasonic distance, acceleration), actuators (DC motor and stepper motor).

With the module you can study all the problems related to the world of IoT: Characteristics and performance of the devices to connect (sensors, actuators, ...), communication technologies (protocols, networks, ...), information technologies (servers, databases, clients, ...) and performance analysis.

The module also allows the use of MiniSim cards, simulators of real situations that, thanks to the use of an internal microcontroller, allow the student to interact with the simulated system and learn the methods and objectives of the Internet of Things. The description of the simulation cards can be found on the following pages.

Didactic simulators for IoT

The MiniSims are small simulators designed for educational use in the study of Internet of Things (IoT) technology and its applications in various sectors, such as: Agri-food, energy, automotive, manufacturing, etc. computer, health, chemical and biotechnological.

They simulate, through an internal microcontroller, the operation of a computer, a plant, a system, etc., interacting with the student and generating all the information for the connection to the IoT, thus allowing to achieve one of the main objectives of this technology, what is to be seen or controlled by both other objects and network users.
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To use the MiniSims you need the IoT module, in particular, the DevIoT unit for the physical connection of the simulator to the cloud and the DL Workspace application that contains the servers and clients for the full operation of the system.
Experiments can be performed on a single computer, using all the tools of the DL Workspace software

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- DL MiniSim-CHI1: Chemistry 4.0, remote monitoring of a chemical plant.

DL MiniSim-ENE1
Home photovoltaic system with remote monitoring of operating parameters

Electric power production systems using photovoltaic panels are increasingly used in the home.

Currently, most of them allow to monitor the system remotely using a PC or a mobile phone using IoT techniques.

The control unit present in the house that uses a domestic connection to the internet sends the production and consumption data via the IoT protocol to a server installed anywhere in the world.

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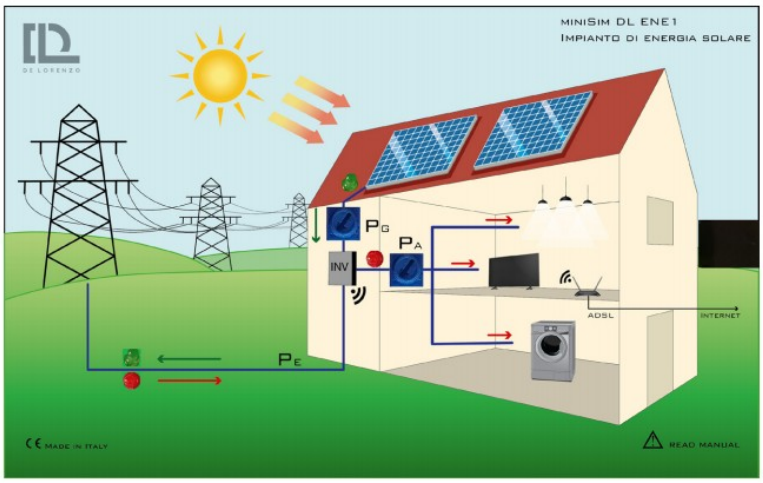

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he connected car is a concept that until a few years ago was considered science fiction and has now ecome a reality. It is the foundation of many applications, including autonomous driving.
he first applications originated in Formula 1, where it was important to know the condition of the ehicle on the track. Then, with the advancement of technology, particularly that of the Internet of hings (IoT), they expanded to many other sectors.
n this simulator two important applications are proposed, one for remote monitoring of the vehicle o know its health, safety, etc., and another for remote diagnostic operations in real time.
he simulator shows a real system in which a car is constantly connected to the internet and herefore the information from it is available, anywhere, for the monitoring and diagnostic perations mentioned above.

Use the DL MiniSim-CAR1 that contains:

- The scheme of the connected car,
- A car start/stop switch
- A potentiometer to vary the number of engine revolutions.
- Software that calculates the machine's operating parameters in real time.
- A switch for inserting faults in the car.

he DL Workspace also contains a car dashboard, which displays the actual dashboard remotely, and n OBD scan tool for troubleshooting.

DL MiniSim-MAN1
Simulation and control of a smart factory

The Smart Factory is a definition used to describe the use of different digital technologies in order t manage all operations within a production reality.
One of the most suitable technologies to use in an intelligent factory is the Internet of Things (IoT) since it allows the exchange of information between different devices, without human intervention to synchronize the general operation of the system.
The simulator shows a "real" system, in which 3 workstations cascade together to make a product Station 1 represents the reception of semi-finished products, Station 2 represents the processing o the product, and Station 3 represents the packaging of the finished product.

In a traditional factory, the system would be governed by a control station (Master) that controls th three workstations (Slaves) and thus coordinates their operation.
In an intelligent factory that uses Internet of Things techniques, the 3 workstations are object (things) that communicate their status to a server and receive information from the server relativ to the status of the other stations, that is, they exchange the status between them.
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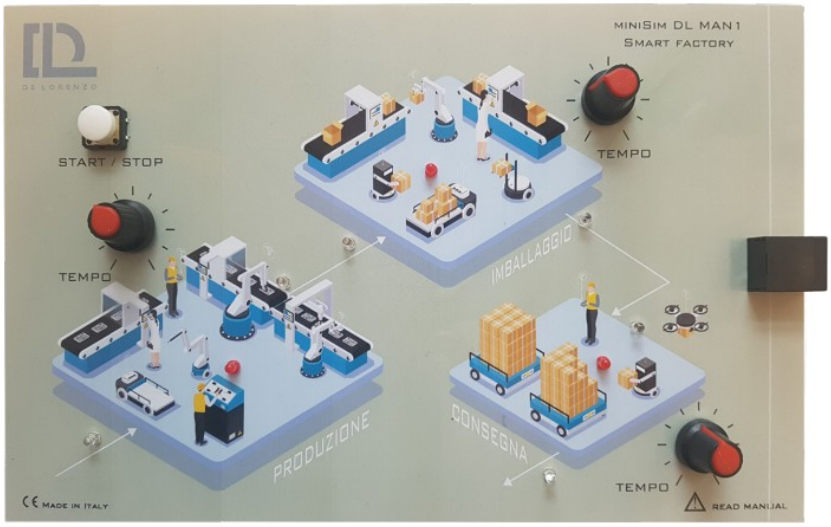

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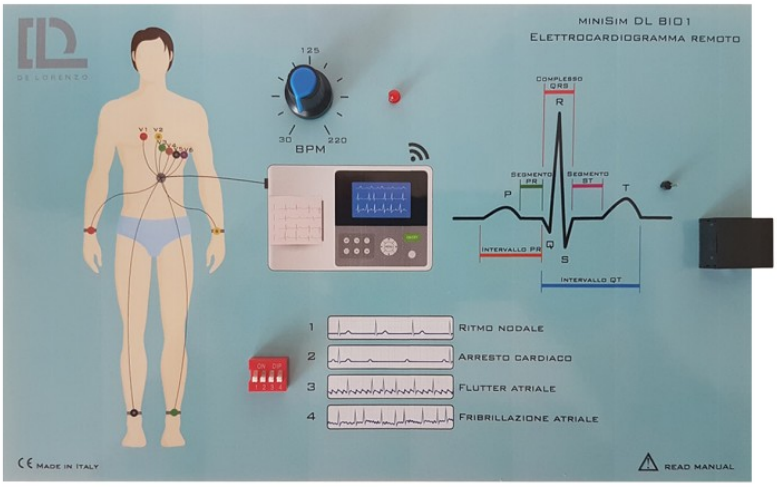
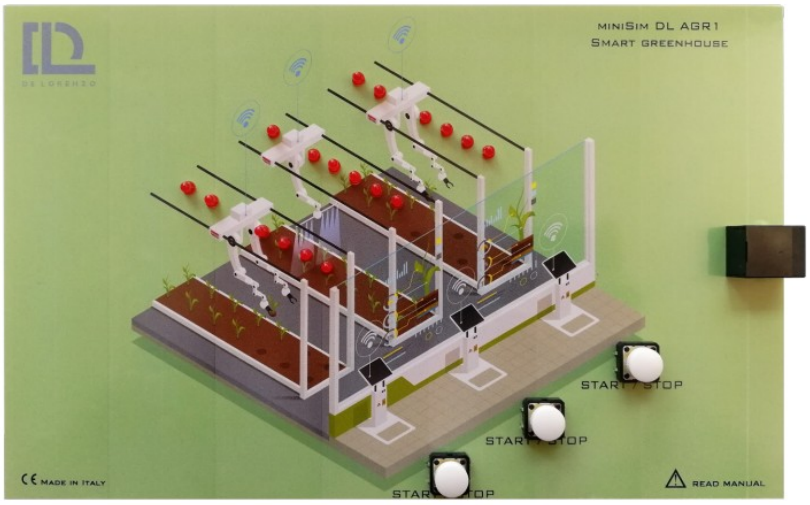


The DL MiniSim-BIO1 is used, which displays a screen print of the entire system components and generates a simulated voltage ECG signal.

DL MiniSim-AGR1
Food Agriculture 4.0 in greenhouses

Food agriculture 4.0 aims to integrate digital technologies and agricultural production to achieve a reduction in energy consumption and resources used in the greenhouse and in the field.
Information technology, which allows remote monitoring of the environment and plants, can ensure favorable environmental conditions for the crop, leading to the objective of increasing the productivity and health of crops, also reducing the use of agrochemicals. In particular, Internet of Things (IoT) technologies together with new intelligent algorithms allow monitoring plant health remotely and coordinating phytosanitary and greenhouse energy management in an integrated manner, in order to optimize crop health and energy consumption.

The information derived from environmental, energy and agricultural monitoring exploits the transmission on the Internet, to be processed remotely from any point thanks to the development of new intelligent algorithms in order to visualize and implement control strategies.
The simulator shows a "real" 4.0 greenhouse system, with an automatic irrigation system, sensors to monitor the weather conditions and actuators to adjust the conditions themselves.



The DL MiniSim-AGR1 which shows a screen print of the components of the complete system, also contains:

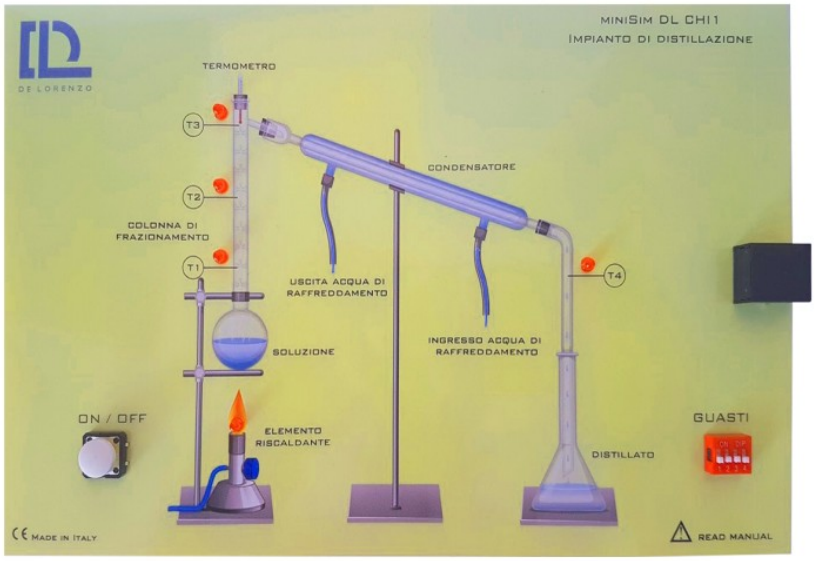
- A LED bar showing the position of the irrigation cart.
- A cart start/stop switch.
- The following DevIoT unit resources are also used:
- The actual temperature sensor with PT100 probe.
- The real DC motor for a simple remote temperature control.

It is possible to observe in real time the position of the irrigation cart and the temperature value and start or stop the irrigation cart and the fan motor.

While Chemistry 1.0 can be identified as that of coal, Chemistry 2.0 as petrochemistry, Chemistry 3.0 as that of globalization and specialization, Chemistry 4.0 means above all circular economy and digitalization (new paradigms of material production and recovery are used to maximize the use of existing molecules.)

Internet of Things (IoT) technologies are also located in Chemistry 4.0 as tools for the digital collection of all plant data, for real-time monitoring operations, for operations to verify their health status and early detection of possible breakages, and for operations to verify their health for the optimization of production and the reduction of raw material consumption.

The simulator shows a 'real' Industrial Distillation Chemical Plant, in its various components that make it controllable and manageable remotely through IoT technologies.



The DL MiniSim-CHI1 which shows a screen print of the distillation system in all its components, also contains a microcontroller inside which allows the simulation of the operation of the plant.
During the simulation, all the values of the main physical magnitudes that characterize the system are calculated in real time.

E-commerce Module

DL NGL-ECOM

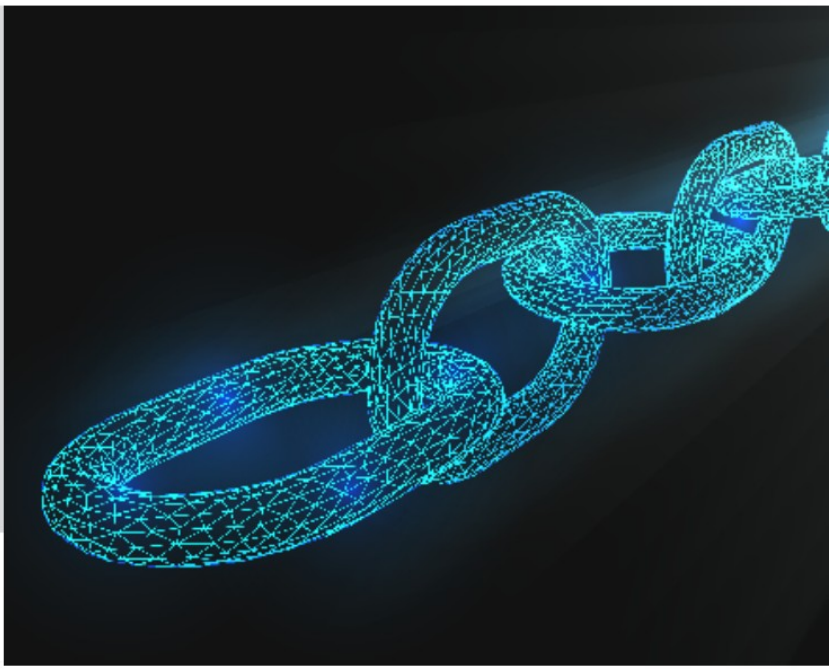
It deals with the problems of e-commerce at a didactic level, that is, the activities of selling and buying products on the Internet.
It allows to configure and use a complete electronic commerce system within the laboratory where, from each job, it is possible to build websites and manage commercial transactions related to the purchase and sale of products and services.
Each workstation can also operate in system user mode for operation verification.

- It consists of a server equipped with all the necessary software applications:
- Personal computer
- Ubuntu operating system
- Apache Web Server
- MySQL database
- WordPress
- E-commerce platform

It allows the study of B2B and B2C e-commerce, Content Management Systems (CMS) to create websites, the creation of e-commerce-oriented websites, database management, product pages, price lists and digital storefronts, electronic payments, and shipping management.

Blockchain Module

DL NGL-BLOCK



It contains the tools to analyse at a didactic level the technologies of Distributed Ledger in general and the blockchain in particular.
Blockchain technology exploits the characteristics of a computer network of nodes for the distributed management of a record containing data and information, uniquely and securely, using a shared mode that does not require a central control and verification entity.
The applications in which this technology can be used are those that do not require mediation and/ or centralization entities. Bitcoin virtual currency is an example of blockchain application.

The module is equipped with its own Blockchain Platform, specially developed to analyse this type of applications at a didactic level.

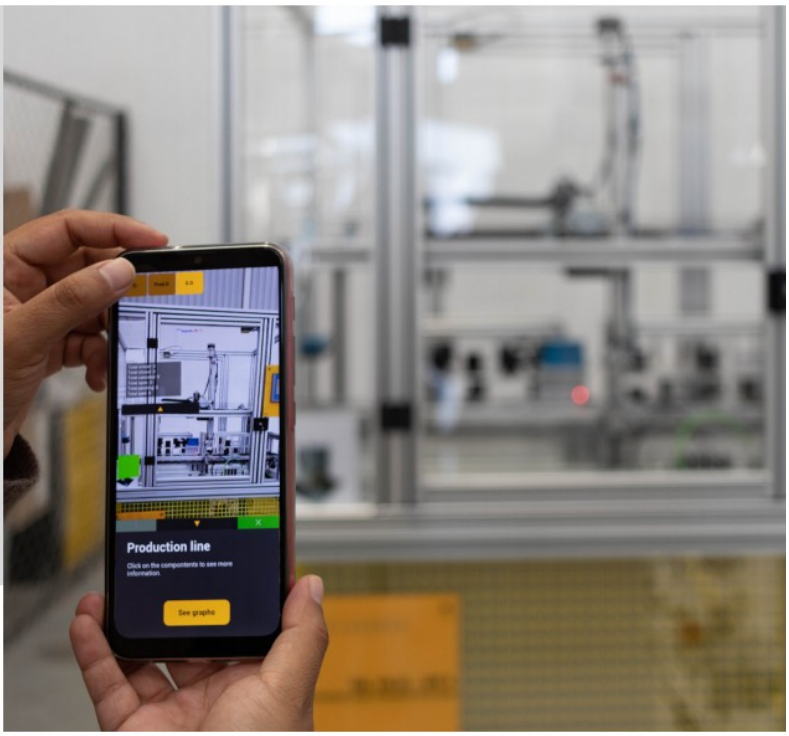
Supports:

- A peer-to-peer network for information exchange
- A distributed ledger
- An authorized network (authorized blockchain)
- Traceability of transfers
- Encryption of transactions
- The immutability of the records and transparency and verifiability.

It allows to study the technologies of Distributed Ledger, characteristics of decentralization, disintermediation, traceability, transparency and immutability of the registry, blockchain with and without authorizations and cryptocurrencies (Bitcoin).

Virtual and Augmented Reality Module

DL NGL-VIRTUAL



It contains the devices and tools for the study and learning of all the issues related to these technologies of the computer world, particularly interesting in their educational applications.
Virtual reality (VR) aims at active participation, taking the user from the material to an abstrac very real dimension.
Augmented Reality (AR) allows to amplify some perceptions of reality using technological de giving the possibility to those who use it to live experiences and nuances of reality that othe would not be possible to know.

The module consists of:

- Windows PC with high performance graphics card.
- Software for the creation of applications in virtual and augmented reality: Ga environments, and simulations.
- VR visor kit used to run applications and enter virtual reality: Portable viewfinder surroundin user's field of view, controller for interaction with virtual reality, power supply.

Big data Module

DL NGL-DATA

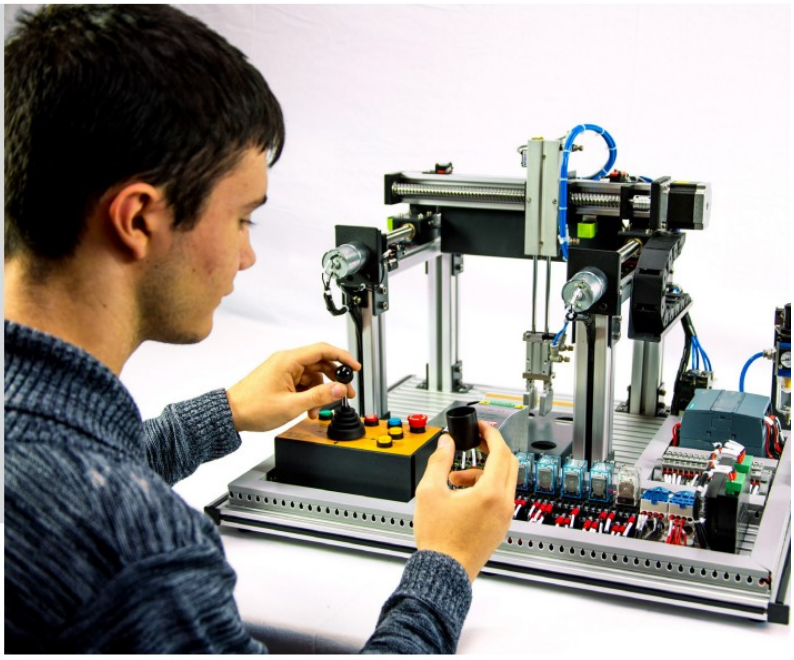
The module addresses the study of processing and analysis of large amounts of data in the field of Data Science.
Data Science is a fairly recent science that allows to manage large amounts of data, overcoming the limitations of traditional databases, and allows its processing without the need for programming language skills.

It provides easy-to-use GUI (Graphical User Interface) tools that allow anyone with minimal specific knowledge to store, manipulate and model data.
The module consists of a Data Science platform that can be used on all workstations in the laboratory, allowing:

- Real-time data processing
- Treatment of historical data
- Programming in Python, Java, and R
- Graphical data analysis
- Machine learning

The module involves using Apache Spark, a unified analytics engine for large-scale data processing with built-in modules for SQL, data flows, machine learning, and graph processing, which also allows to use streaming data that could, for example, come from IoT sensors.

Robotics and Automation Modules.



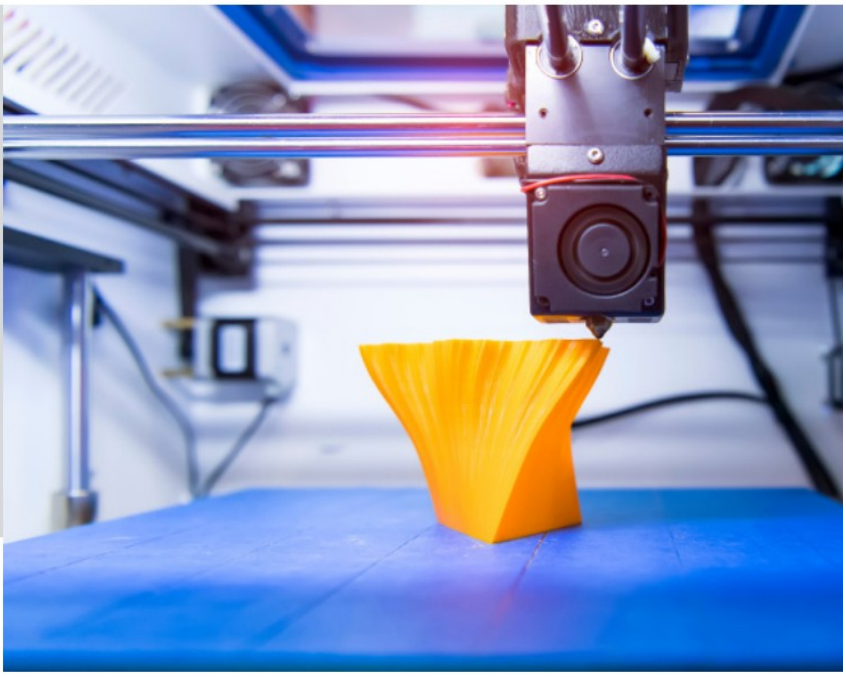
It contains devices and tools for the study and learning of topics related to the robotics and automation sectors, solutions that are at the centre of industry 4.0 thanks to the remarkable development that has taken place in recent years in the field of software and hardware.
The applications of industrial robots are in fact countless. In particular, industrial automation is found in the automotive, aerospace, food, biotechnology, chemical, electronic, medical, nautical and other sectors.
The proposed module consists of a series of didactic hardware systems, each equipped with an electronic interface board, and can be connected to any workstation through the Cloud.

The teaching systems available for this application include:

- DL NGL-ROBSIX and DL NGL-CIM-SIM robotic demonstrators, complete with sensors and actuators representative of the mobility and handling properties characteristic of industrial robots. They allow the development of comprehensive courses on robotic control systems and are equipped with SCADA software for the study of automation and concepts of Industry 4.0.
- DL NGL-2314 Systems for the study of industrial process control that effectively guarantee the safety of the plant and operators, maximize productivity, and minimize waste.

With the modules it is possible to study the problems related to the world of robotics and industrial automation: Characteristics and performance of the devices to be connected (sensors, actuators), communication technologies between devices, control techniques and methodologies, performance analysis and safety of systems.

3D Manufacturing, modelling, and printing module DL NGL-FABLAB



3D printing is one of the latest revolutionary technologies, completely changing the way we can learn, research and prototype, creating something physical out of nothing.

This module consists of a comprehensive course on the most important topics for 3D printing, offering a detailed description of the 4 fundamental steps:

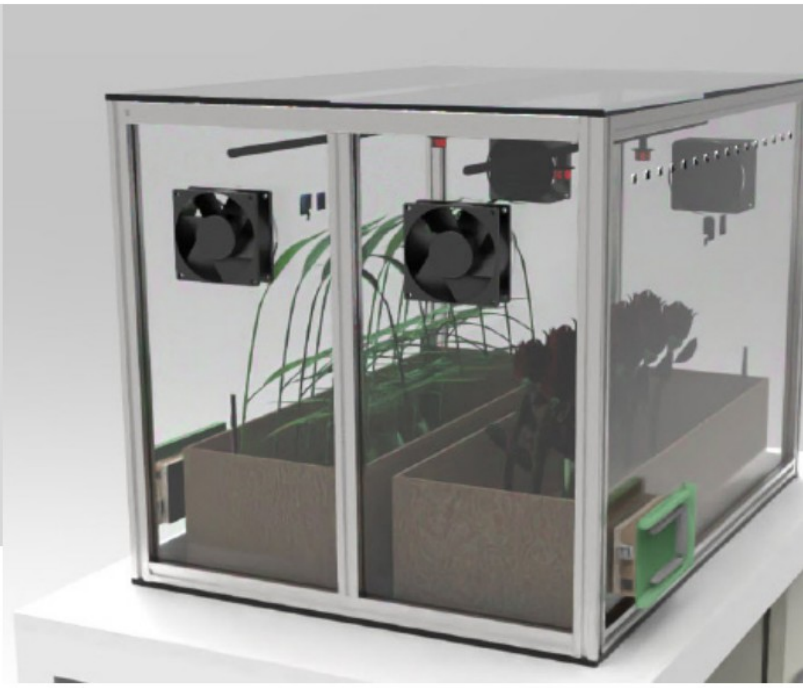
- Planning
- Modelling
- 3D Printing
- Applications.

The course is developed to teach the basic concepts of 3D modelling, mechanics, and model resistance, and you will master the preparation of print files to create indispensable objects in areas such as prototyping, architecture, automotive and all those fields of application that previously required the collaboration of multiple partners.

The module consists of a 3D printer and design and printing software that makes 3D modelling accessible to everyone, with a complete and easy-to-use toolset.

Smart Greenhouse Module

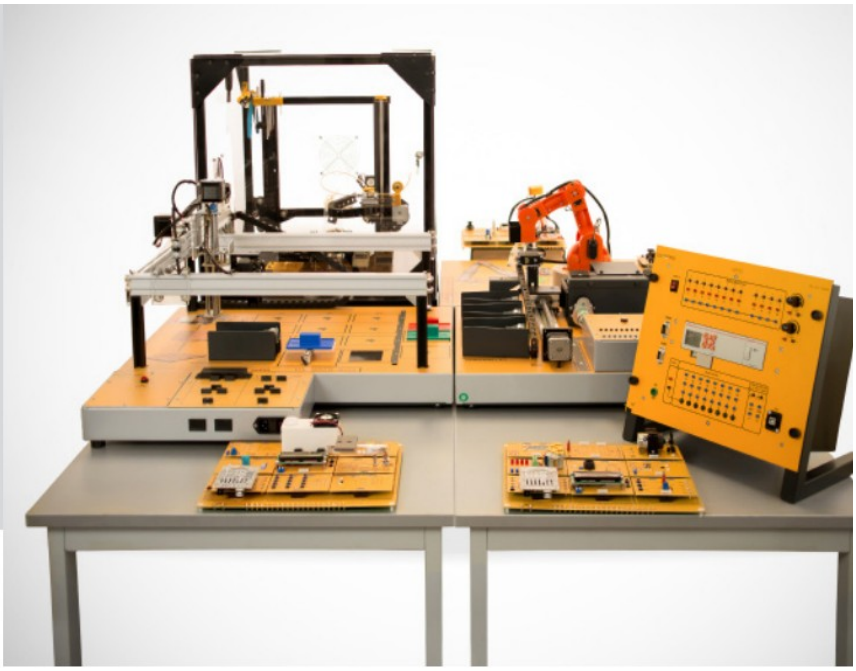
DL NGL-GREEN-STEM



Perfect for a first approach to botany, where young people can create their own cultures in an environment with a rich educational content.
It consists of 2 zones, where for each of them it is possible to monitor humidity, temperature and lighting. The sensors in the greenhouse are connected to a dedicated Arduino board, which takes care of data acquisition and communication.
Through a dedicated software, it is possible to communicate with the Arduino board to acquire and analyse data directly from the PC.
Communication with the system can also be done remotely via a Wi-Fi connection.
It allows checking the optimal ambient humidity and temperature values based on the type of crop as well as the optimal pH values in the soil.
It is provided with ventilation and heating, to regulate the parameters based on environmental conditions, drip and sprinkler irrigation, containers for substrate or soil, a water pump and a set of sensors for temperature, humidity, flow, light and pH.

Industry 4.0 Module

DL NGL-I4.0 FACTORY

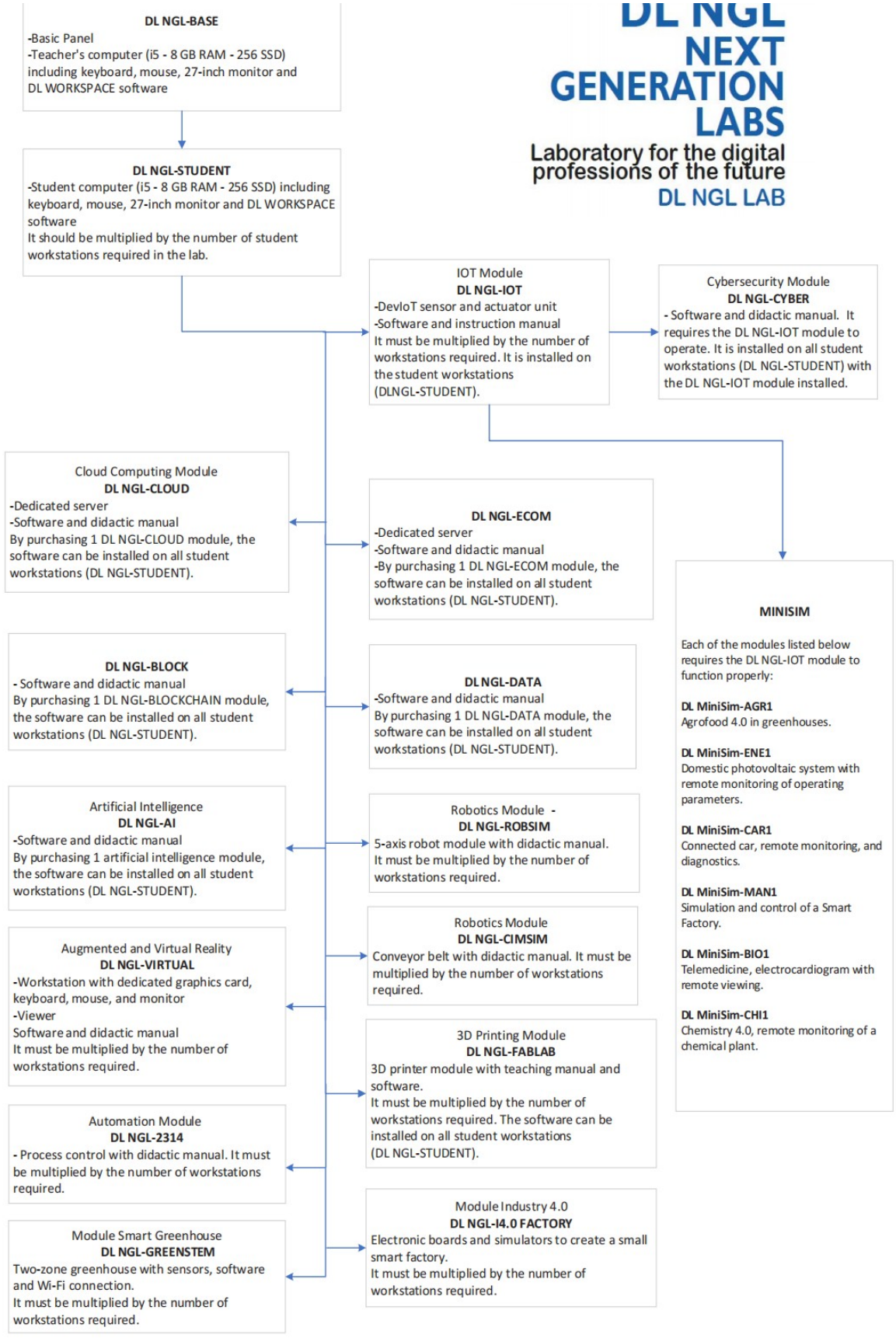


ıe digitization of information, combined with high-performance hardware, allows the ıplementation of more flexible and optimized production architectures. The level of innovation is ıch that, today, Industry 4.0 is synonymous with smart manufacturing.
ıe DL NGL-I4.0 FACTORY is composed of a set of electronic boards and simulators to create a small ıart factory.

sing an Arduino open-source microcontroller connected to a SCADA supervisory software for ata acquisition and system control, students are able to perform practices covering topics from troductory automation and robotics to protocols of communication, to sensors and actuators up to complete study of a production process.

ıe simulators provided with this application are the following:
- **DL NGL-ROBSIM** (for the study of a robotic arm),
- **DL NGL-CIMSIM** (for the study of a conveyor belt),
- **DL NGL-WMS-SIM** (for the study of a smart warehouse).

ıe integration of the entire factory with its stations is performed through a **SCADA** system for ıonitoring, handling, and control of the entire production process with the aid of the **L WORKSPACE** software.


DL NGL
NEXT
GENERATION
LABS
Laboratory for the digital professions of the future
DL NGL LAB
DL NGL-BASE
-Basic Panel
-Teacher's computer (i5 - 8 GB RAM - 256 SSD) including keyboard, mouse, 27-inch monitor and DL WORKSPACE software
DL NGL-STUDENT
-Student computer (i5 - 8 GB RAM - 256 SSD) including keyboard, mouse, 27-inch monitor and DL WORKSPACE software
It should be multiplied by the number of student workstations required in the lab.
IOT Module
DL NGL-IOT
-DevIoT sensor and actuator unit
-Software and instruction manual
It must be multiplied by the number of workstations required. It is installed on the student workstations (DLNGL-STUDENT).
Cybersecurity Module
DL NGL-CYBER
- Software and didactic manual. It requires the DL NGL-IOT module to operate. It is installed on all student workstations (DL NGL-STUDENT) with the DL NGL-IOT module installed.
Cloud Computing Module
DL NGL-CLOUD
-Dedicated server
-Software and didactic manual
By purchasing 1 DL NGL-CLOUD module, the software can be installed on all student workstations (DL NGL-STUDENT).
DL NGL-ECOM
-Dedicated server
-Software and didactic manual
-By purchasing 1 DL NGL-ECOM module, the software can be installed on all student workstations (DL NGL-STUDENT).
MINISIM
Each of the modules listed below requires the DL NGL-IOT module to function properly:
DL MiniSim-AGR1
Agrofood 4.0 in greenhouses.
DL MiniSim-ENE1
Domestic photovoltaic system with remote monitoring of operating parameters.
DL MiniSim-CAR1
Connected car, remote monitoring, and diagnostics.
DL MiniSim-MAN1
Simulation and control of a Smart Factory.
DL MiniSim-BIO1
Telemedicine, electrocardiogram with remote viewing.
DL MiniSim-CHI1
Chemistry 4.0, remote monitoring of a chemical plant.
DL NGL-BLOCK
- Software and didactic manual
By purchasing 1 DL NGL-BLOCKCHAIN module, the software can be installed on all student workstations (DL NGL-STUDENT).
DL NGL-DATA
-Software and didactic manual
By purchasing 1 DL NGL-DATA module, the software can be installed on all student workstations (DL NGL-STUDENT).
Artificial Intelligence
DL NGL-AI
-Software and didactic manual
By purchasing 1 artificial intelligence module, the software can be installed on all student workstations (DL NGL-STUDENT).
Robotics Module -
DL NGL-ROBSIM
5-axis robot module with didactic manual.
It must be multiplied by the number of workstations required.
Augmented and Virtual Reality
DL NGL-VIRTUAL
-Workstation with dedicated graphics card, keyboard, mouse, and monitor
-Viewer
Software and didactic manual
It must be multiplied by the number of workstations required.
Robotics Module
DL NGL-CIMSIM
Conveyor belt with didactic manual. It must be multiplied by the number of workstations required.
3D Printing Module
DL NGL-FABLAB
3D printer module with teaching manual and software.
It must be multiplied by the number of workstations required. The software can be installed on all student workstations (DL NGL-STUDENT).
Automation Module
DL NGL-2314
- Process control with didactic manual. It must be multiplied by the number of workstations required.
Module Industry 4.0
DL NGL-I4.0 FACTORY
Electronic boards and simulators to create a small smart factory.
It must be multiplied by the number of workstations required.
Module Smart Greenhouse
DL NGL-GREENSTEM
Two-zone greenhouse with sensors, software and Wi-Fi connection.
It must be multiplied by the number of workstations required.

Carico induttivo

Composto da 3 induttanze, con possibilità di collegamento a stella, a triangolo e in parallelo, comandato da 3 interruttori con sette gradini ognuno.
Max. energia reattiva nel collegamento monofase o trifase: 900 VAr
Tensione nominale: 380/220 V Y/D
Tensione nominale in monofase: 220 V

Inductive load

Composed of three inductances, with possibility of star, delta and parallel connection, controlled by three switches with seven steps each.
Max. reactive power in single or three-phase connection: 900 VAr
Rated voltage: 380/220 V Y/D
Rated voltage in single-phase: 220 V

Carga inductiva

Compuesta por tres inductancias, con posibilidad de conexión en estrella, en triángulo y en paralelo, controlada por tres interruptores con siete pasos cada uno.
Energía reactíva máxima en la conexión monofásica o trifásica: 900 VAr
Voltaje nominal: 380/220 V Y/D
Voltaje nominal en monofásica: 220 V

Charge inductive

Composée de trois inductances, avec possibilité de connexion à étoile, à triangle et en parallèle, commandée par trois interrupteurs avec sept positions chacun.
Max. énergie réactive dans la connexion monophasée ou triphasée: 900 VAr
Tension nominale: 380/220 V Y/D
Tension nominale en monophasée: 220 V

DL 10065N

Modulo di misura digitale della potenza elettrica

Misura in corrente continua di: tensione, corrente, potenza ed energia.
Misura in corrente alternata di: tensione, corrente, potenza, energia attiva, energia reattiva, energia apparente, cosphi e frequenza.

- Tensione continua: 300 V
- Corrente continua: 20 A
- Tensione alternata: 450 V
- Corrente alternata: 20 A
- Potenza: 9000 W

Alimentazione monofase: 90-260 V, 50/60 Hz
Comunicazione: RS485 con protocollo MODBUS RTU

Electrical power digital measuring unit

Measurement of dc voltage, current, power and energy. Measurement of AC voltage, current, power, active energy, reactive energy, apparent energy, power factor and frequency.

- Direct voltage: 300 V
- Direct current: 20 A
- Alternate voltage: 450 V
- Alternate current: 20 A
- Power: 9000 W

Single phase power supply: 90-260 V, 50/60 Hz
Communication: RS485 with protocol MODBUS RTU

Módulo de medida digital de la potencia eléctrica

Medida en corriente directa de: tensión, corriente, potencia y energía.
Medida en corriente alterna de: tensión, corriente, potencia, energía activa, energía reactiva, energía aparente, cosphi y frecuencia.

- Tensión continua: 300 V
- Corriente continua: 20 A
- Tensión alterna: 450 V
- Corriente alterna: 20 A
- Potencia: 9000 W

Alimentación monofásica de red.
Comunicación: RS485 con protocolo MODBUS RTU

Unité de mesure numérique de puissance électrique

Mesure en courant continu de: tension, courant, puissance et énergie.
Mesure en courant alternatif de: tension, courant, puissance, énergie active, énergie réactive, énergie apparente, cosphi et fréquence.

- Tension continue: 300 V
- Courant continu: 20 A
- Tension alternative: 450 V
- Courant alternatif: 20 A
- Puissance: 9000 W

Alimentation monophasée: 90-260 V, 50/60 Hz
Communication: RS485 avec protocole MODBUS RTU

DL 1021/4

Motore asincrono trifase a gabbia di scoiattolo

Motore ad induzione con avvolgimento trifase sullo statore e con gabbia di scoiattolo annegata nel rotore.

- Potenza: 1,5 kW
- Tensione: 230/400 V Δ/Y
- 4 poli
- Velocità: 1420 rpm, 50 Hz
- Velocità: 1720 rpm, 60 Hz

Squirrel cage three phase asynchronous motor

Induction motor with three-phase stator winding and squirrel cage buried in the rotor.

- Power: 1.5 kW
- Voltage: 230/400 V Δ/Y
- 4 poles
- Rated speed: 1420 rpm, 50 Hz
- Rated speed: 1720 rpm, 60 Hz

Motor asíncrono trifásico de jaula

Motor de inducción con devanados trifásicos en el estator y con jaula de ardilla anegada al rotor.

- Potencia: 1.5 kW
- Tensión: 230/400 V Δ/Y
- 4 polos
- Velocidad nominal: 1420 rpm, 50 Hz
- Velocidad nominal: 1720 rpm, 60 Hz

Moteur asynchrone triphasé à cage

Moteur à induction avec enroulement triphasé sur le stator et à cage d'écureuil noyé dans le rotor.

- Puissance : 1.5 kW
- Tension : 230/400 V Δ/Y
- 4 pôles
- Vitesse nominale : 1420 rpm, 50 Hz
- Vitesse nominale : 1720 rpm, 60 Hz

(*) NOTA: Tutti i valori di velocità sono indicati con frequenza operativa di 50Hz. Per il funzionamento a 60Hz, i valori di velocità saranno differenti (20% circa).

(*) NOTE: All speed values are shown with an operating frequency of 50Hz. For 60Hz operation, speed values will differ (around 20%).

(*) NOTA: Todos los valores de velocidad vienen indicados para una frecuencia de funcionamiento de 50 Hz. Para un funcionamiento a 60Hz, los valores de velocidad serán diferentes (aproximadamente 20%).

(*) Remarque: Toutes les valeurs de vitesse sont indiquées par une fréquence de fonctionnement de 50Hz. Pour un fonctionnement à 60Hz, les valeurs de vitesse seront différentes (environ 20%).

DL 2108TAL-CP

Alimentatore trifase

Alimentatore per collegamento trifase con interruttore di rete a 4 poli.
Lampada spia per ogni fase.
Uscita a 5 terminali di sicurezza da laboratorio: L1, L2, L3, N e P.
Interruttore per la connessione a qualsiasi fonte di energia rinnovabile; consente di collegare la rete elettrica alla fonte selezionata, consentendo l'immissione di energia nella rete quando la fonte sta generando energia.
Protocollo di comunicazione Modbus RS485.

Three phase supply unit

Power supply unit for three-phase connection with 4-pole cam mains switch.
Three-phase indicator lamps.
Output through 5 safety terminals: L1, L2, L3, N and PE.

Switch for connecting to any renewable energy sources; it allows the electrical grid to be connected to the selected source, enabling the injection of energy into the grid when the source is generating power.
Modbus RS485 Protocol Communication.

Módulo de alimentación trifásica

Módulo de alimentación para conexiones trifásicas con interruptor de red de 4 polos.
Lámpara indicadora para cada fase.
Salida de 5 terminales del laboratorio: L1, L2, L3, N y PE.
Interruptor para conexión a cualquier fuente de energía renovable; permite conectar la red eléctrica a la fuente seleccionada, posibilitando la inyección de energía a la red cuando la fuente está generando energía.
Protocolo de comunicación Modbus RS485.

Module d'alimentation triphasée

Module d'alimentation pour connexion triphasée avec interrupteur de réseau à 4 pôles.
Témoin lumineux pour chaque phase.
Sortie à 5 terminaux: L1, L2, L3, N et PE.
Interrupteur de connexion à n'importe quelle source d'énergie renouvelable ; il permet de connecter le réseau électrique à la source sélectionnée, permettant l'injection d'énergie dans le réseau lorsque la source produit de l'électricité.
Protocole de communication Modbus RS485.

DL 2100TTI

Trasformatore trifase di isolamento

Trasformatore di isolamento da collocare tra la rete trifase e i laboratori per fornire una tensione trifase secondaria con neutro isolato adatto per il funzionamento dei moduli.

Caratteristiche tecniche:

- Ingresso di rete trifase con regolazione +10%/-10%
- Uscita: 400V con regolazione +5%/-5%
  - 3 x presa trifase CCE (3P+N+E)
  - 2 x presa monofase CCE (2P+E)
  - 2 x single phase type F socket
- Protezione magneto termica 16 A, 30 mA
- Interruttore di protezione del motore: 6.3 a 10 A
- Pulsante di arresto di emergenza a fungo
- Massima uscita in potenza: 6 KVA

Three-phase isolation transformer

Isolation transformer to be placed between the three-phase mains and the laboratories providing a three-phase secondary voltage with isolated neutral suitable for the modules operation.

Technical features:

- Three-phase mains input with +10%/-10% adjustment.
- Output: 400V with +5%/-5% adjustment.
  - 3 x three phase CEE sockets (3P+N+E)
  - 2 x single phase CEE sockets (2P+E)
  - 2 x single phase type F socket
- 16 A, 30 mA differential magneto-thermal protection.
- Motor-protection circuit-breaker: 6.3 to 10 A.
- Mushroom emergency stop push-button
- Maximum output power: 6 KVA

LIGHT SOURCE
DL SIMSUN

This product is used to provide suitable lighting to the photovoltaic solar module that is use in the photovoltaic trainer system trainers. The light intensity can be manually adjusted through a potentiometer or automatically controlled through a 0-10 V input or RS485 serial port using Modbus protocol, to allow performing experiments with different light intensities, therefore simulating the light conditions from dawn to twilight.

The DL SIMSUN includes the following main components:

- Dimmer for manual light intensity control
- 12 halogen lamps, 120 W each
- Mobile structure mounted on wheels
- 10A magneto-thermal switch, 30mA RCCB
- Switch for control modes: Local, Modbus or analogue 0-10V
- RS485 serial ports

Module supply voltage: Single phase by the mains

DL 9031

Interruttore magnetotermico differenziale

Interruttore da inserire tra la fonte di alimentazione e gli altri moduli DL.

- Corrente Max.: 10A
- Soglia di intervento differenziale: 30mA

Circuit breaker

Circuit breaker to be inserted between the power source and other DL modules.

- Current Max.: 10A
- Intervention threshold differential: 30mA

Interruptor magneto-térmico diferencial

Interruptor de insertar entre la fuente de alimentación y los demás módulos DL.

- Corriente Max.: 10A
- Intervención diferencial: 30mA

Interrupteur magnétothermique différentiel

Interrupteur à insérer entre la source d'alimentation et les autres modules DL.

- Courant Max.: 10A
- Seuil d'intervention différentielle: 30mA

DL 9030

Misuratore di potenza e di energia monofase

Strumento utilizzato nei laboratori di energie rinnovabili per misurare i parametri elettrici in un circuito monofase. È capace di misurare tensioni, correnti, potenza attiva, potenza reattiva, potenza apparente, fattore di potenza, frequenza, THD, energia attiva e reattiva. Comunicazione seriale tramite porta RS-485 utilizzando il protocollo Modbus RTU.

Single-phase power and energy meter

Instrument used in the renewable energies laboratories to measure electrical parameters in a single phase circuit. It is able to measure voltages, currents, active power, reactive power, apparent power, power factor, frequency, THD, active and reactive energy. Serial communication via RS-485 port using Modbus RTU protocol.

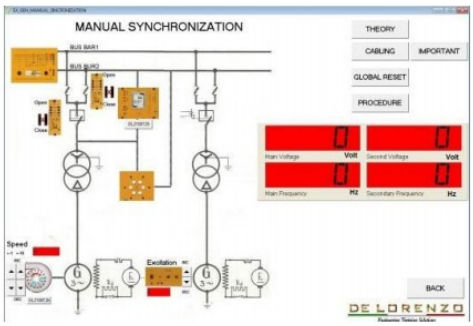
Medidor de potencia y de energía monofásico

Instrumento utilizado en los laboratorios de energías renovables para medir los parámetros eléctricos en un circuito monofásico. Es capaz de medir tensiones, corrientes, potencia activa, potencia reactiva, potencia aparente, factor de potencia, frecuencia, THD, energía activa y reactiva. Comunicación serial mediante puerta RS-485 usando el protocolo Modbus RTU.

Compteur de puissance et d'énergie monophasé

Instrument utilisé dans les laboratoires d'énergies renouvelables pour mesurer les paramètres électriques dans un circuit monophasé. Il est capable de mesures les tensions, les courants, la puissance active, la puissance réactive, la puissance apparente, le facteur de puissance, la fréquence, THD, énergie active et réactive. Communication série à travers le port RS-485 en utilisant le protocole Modbus RTU.

DL SCADA3+



SCADA software

Software SCADA in per acquisizione dati e controllo. Possibilità di mostrare con la possibilità di visualizzare l'applicazione nei vari dispositivi collegati nella stessa rete.

SCADA software

SCADA software for control and monitoring. With the possibility to show the application to different devices connected in the same network.

SCADA software

Software SCADA para adquisición de datos y control. Con posibilidad de mostrar la aplicación a diferentes dispositivos conectados en la misma red.

SCADA logiciel

Software SCADA pour acquisition de données et contrôle. Avec la possibilité de montrer l'application à différents périphériques connectés au même réseau.

DL 2108T25

Relè di sincronizzazione con il generatore

Il relè di sincronizzazione misura la tensione e la frequenza di due ingressi; la tensione, la frequenza e l'angolo di fase dell'ingresso Generatore (G) sono confrontati con quelli dell'ingresso Bus (B) considerato come riferimento.

Funzioni:

- Sincronizzazione automatica e controllo sincronizzato
- Controllo dello spostamento di fase
- Sincronizzazione del generatore con il bus di riferimento
- Modalità di funzionamento Normale/Dead Bus
- Parametri regolabili per l'impostazione della chiusura dell'interruttore
- Differenza di tensione regolabile
- Differenza di frequenza regolabile
- Differenza di fase regolabile
- Misurazione di tensione e frequenza del bus e del generatore
- Misurazione di ΔF, ΔV e Δϕ
- Display LCD multifunzione
- Grafico a barre delle grandezze per il confronto visivo del test
- 1 uscita relè per il controllo di chiusura dell'interruttore
- 2 porte RS485 (maschio/femmina) che supportano il protocollo Modbus RTU.

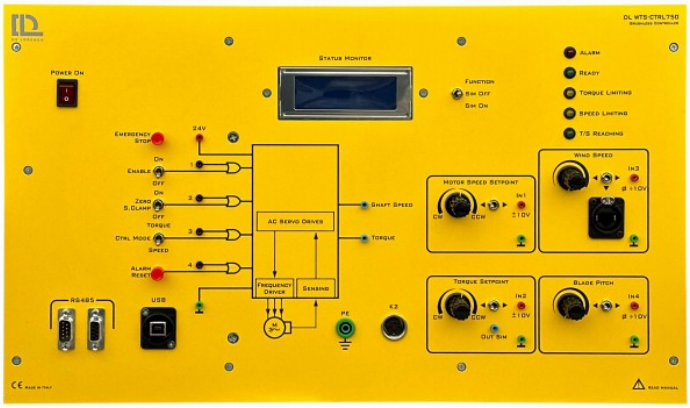
Generator Synchronizing Relay

It is a numerical synchronizing relay which measures voltage and frequency of two inputs; the voltage, frequency and phase angle of the Generator input (G) are individually compared with those of the Bus input (B) considered as reference.

Functions:

- Automatic Synchronization and Synchro-check
- Phase displacement checking
- Synchronising of the generator with the reference bus
- Normal/Dead Bus operation mode
- Adjustable parameters for circuit breaker closing setting
- Adjustable Voltage difference
- Adjustable Frequency difference
- Adjustable Phase difference
- Voltage and Frequency measurement of the Bus and of the generator
- ΔF, ΔV and Δϕ measurement
- Multi-function LCD display
- Bar graph of magnitudes for the test visual comparison
- 1 relay output for circuit breaker close control
- 2 ports RS485 (Male/Female) supporting Modbus RTU protocol.

DL WTS-CTRL750



Modulo di controllo della turbina eolica

Modulo progettato per il controllo del gruppo motore della turbina eolica.
Permette il controllo manuale, tramite potenziometri sul pannello frontale, o da remoto, tramite porta RS485 utilizzando il protocollo Modbus.
Il pannello frontale include anche uno strumento digitale che visualizza i parametri del vento, della turbina eolica e i parametri meccanici.

Caratteristiche tecniche

- Comandi di ingresso: pulsante di emergenza, interruttore di abilitazione, interruttore di blocco a velocità zero, interruttore della modalità di controllo, interruttore di ripristino dell'allarme.
- Segnali analogici e con manopole: set point della velocità del motore, set point della coppia, velocità del vento, passo delle pale.
- Segnali di uscita: velocità dell'albero, coppia.
- Spie luminose: allarme, funzionamento, limitazione di coppia, limitazione di velocità, raggiungimento del set point di velocità/coppia.
- Porte RS485 (protocollo MODBUS RTU).
- Porta USB (per collegamento dell'anemometro)
- Interruttore di accensione.
- Morsetto di terra.

Wind turbine control module

Module designed for the control of the wind turbine motor group.
It allows the manual control, using the potentiometers on the front panel, or the remote control, via the RS485 port using the Modbus protocol.
The front panel also includes a digital meter that displays wind, wind turbine and mechanical parameters.

Technical features

- Input controls: emergency button, enable switch, zero sped clamp switch, control mode switch, alarm reset switch.
- Knob and analogue signals: motor speed setpoint, torque setpoint, wind speed, blade pitch.
- Output signals: shaft speed, torque.
- Indicator lights: alarm, ready (operation light), torque limiting, speed limiting, speed/torque setpoint reaching light.
- RS485 ports (MODBUS RTU protocol).
- USB port (for anemometer connection).
- Power on switch.
- Ground terminal.